

**HIV and AIDS: Perceived impact and responses of companies in the
South African automotive manufacturing sector**

Submitted in partial fulfillment of the requirements for the degree

Masters in Social Science (Industrial Psychology)

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Declaration

I declare that the dissertation **HIV and AIDS: Perceived impact and responses of companies in the South African automotive manufacturing sector** is my original work, that it has not been previously submitted for any other degree at any other university, and that all sources that I have used have been acknowledged.



12 March 2013

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Date

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Dedication

My children, Francis and Meyer and to my mother and Francois, for your understanding and continued support throughout my academic career.

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ABSTRACT

HIV and AIDS might not necessarily be considered by South African companies to be the primary health condition impacting on their production costs and influence related interventions. The aim of this study was to gain a better understanding of automotive companies' perceptions regarding the health conditions that impact on their production costs and their related workplace interventions. A cross sectional, electronic survey was conducted amongst 167 companies from the automotive manufacturing sector in South Africa, using stratified random sampling from a representative South African database. The realized sample comprised 74 companies. Descriptive statistics and non-parametric tests were conducted to investigate the perceived health influencing factors impacting production costs, the monitoring thereof, extent of containment, interventions implemented as well as perceived success of workplace interventions to address company health challenges in terms of company size (small, medium and large organisations) and ownership (multinational versus national). The health factors perceived to have a moderate to large impact are HIV/AIDS, smoking, alcohol use, stress, back/neck ache and tuberculosis. These are reported to be better monitored and managed by medium and large organisations. Small organisations reported a smaller impact, fewer efforts and less success. Large organisations have HIV/AIDS interventions while those with wellness programmes seemed better able to monitor and manage health issues. Smaller organisations were not convinced of the benefits of interventions in addressing health challenges. As the impacting health conditions seemed linked, comprehensive and integrated wellness programmes in health supportive environments are required to address the health issues and ensure organisation competitiveness. Evidence for the effectiveness of workplace wellness programmes in South African is limited and calls for the evaluation of interventions as a priority.

Keywords: Workplace Wellness, production costs, HIV/AIDS, TB, alcohol use

ACRONYMS

| | |
|-------------|---|
| AIDS | Acquired Immune Deficiency Syndrome |
| ART | Anti-retroviral treatment |
| ARV | Anti-retroviral |
| ASSA | Actuarial Society of South Africa |
| BC | Bargaining Council |
| BCEA | Basic Conditions of Employment Act |
| EAP | Employee Assistance Programmes |
| EWP | Employee Well-being Programme |
| GDP | Gross Domestic Product |
| GHI | Global Health Initiative |
| GRI | Global Reporting Initiative |
| HAART | Highly Active Anti-retroviral Treatment |
| HAWP | HIV and AIDS Workplace Programmes |
| HCT | HIV Counselling and Testing (known previously as Voluntary Counselling and Testing – VCT) |
| HEARD | Health Economics and HIV/AIDS Research Division |
| HIV | Human Immunodeficiency Disease |
| HSRC | Human Sciences Research Council |
| ICVTC | Informed Consent Voluntary Testing and Counselling |
| ILO | International Labour Organisation |
| KAPB survey | Knowledge, Attitude and Practices and Behaviour |
| KZN | KwaZulu-Natal |
| MNC | Multi-National Corporation |

| | |
|---------|--|
| MQA | Mining Qualification Authority |
| MRC | Medical Research Council |
| MTCT | Mother to Child Transmission |
| NDoH | National Department of Health |
| NGOs | Non-governmental Organisations |
| PLWHA | Person/People living with HIV/AIDS |
| SABCOHA | South African Business Council on HIV/AIDS |
| SMME | Small, Medium and Micro Enterprises |
| SME | Small and Medium Enterprises |
| STD(s) | Sexually Transmitted Disease(s) |
| STI(s) | Sexually Transmitted Infection(s) |
| UNAIDS | United Nations Program on HIV/AIDS |
| WWP | Workplace Wellness Programmes |
| WHO | World Health Organisation |

Definition of Terms

AIDS: The Acquired immune deficiency syndrome or acquired immunodeficiency syndrome (AIDS) is a disease of the human immune system, caused by the human immunodeficiency virus (HIV).

Dependency Ratio: This refers to the ratio between those age 0-14; and 50 years and older in relation to the working population used as an indicator for the per capita income impact of HIV and AIDS.

Efficacy of interventions: Efficacy of an intervention refers to the significant effect or beneficial change of a specific intervention assessed by explanatory randomized controlled trials.

Effectiveness of interventions: The effectiveness of an intervention shows whether the intervention resulted in some desired outcomes assessed through a pragmatic randomised controlled trial tests, quasi-experimental designs or even in the effectiveness in everyday practice.

Health: The concepts Health stems from the WHO Constitution of 1948 definition of health i.e. *“a state of complete physical, mental and social well-being and not merely the absence of disease or infirmity and the ability to lead a socially and economically productive life”* (WHO, 1998,; p.1)

Health Promotion/Workplace Wellness: The concepts of Health Promotion or Wellness in the workplace stem from the understanding of Health promotion as the “process of enabling people to increase control over, and to improve their health” from the Ottawa Charter for Health Promotion in 1986 (WHO, 1998, p.1). It is thus a comprehensive social and political process.

HIV: The Human immunodeficiency virus (HIV) is a virus or the retrovirus family causing HIV infection and ultimately to acquired immunodeficiency syndrome (AIDS). HIV attacks the immune system while the immune system attacks the virus making the person ultimately susceptible to various opportunistic infections like tuberculosis.

Incidence: It measures new cases of HIV and AIDS within a specific period of time i.e. the number of new infections divided by the number of HIV-negative people within a period of time.

Most-at-risk populations: Most-at-risk populations (MARPs) can be considered to be groups of people that have a higher than population HIV prevalence due to the engagement in behaviours or exposure of behaviours that put them at enhanced risk for HIV infection.

Prevalence: HIV and AIDS prevalence measures the total number of people infected with HIV or who have developed AIDS at a specific point in time.

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CHAPTER 1

INTRODUCTION

1.1 Introduction

HIV and AIDS remains a major challenge to business evidenced by its significant impact on the global workplace (UNAIDS, 2010). This global epidemic is most noticeable in sub-Saharan Africa as about one in 20 adults are HIV infected, justifiably a significant public health concern (UNAIDS, 2012). Southern Africa in particular, has long been known as the focal area of the epidemic as it is estimated that 34% of the HIV infected population of the world are located in this geographical area (WHO, 2011). For Southern Africa, severely challenged by the urgency for sustainable economic and social development, the generalised HIV and AIDS pandemic has demanded the prioritisation of HIV and AIDS for governments and business alike.

In line with projections by the UNAIDS, the HIV epidemic curve in South Africa seems to be stabilizing as evidenced by the estimated national HIV prevalence amongst women participating in the National Department of Health's (NDoH) antenatal surveys over the past three years: 29.1% in 2006; 29.4% in 2007 and 29.3% in 2008 (NDoH, 2009). It should however be noted that a slight increase was noted in 2009 to 29.4% and in 2010 to 30.2% (NDoH, 2011), followed by a decrease in 2011 to 29.5% (NDoH, 2012).

Despite the relative stability of the epidemic, the HIV and AIDS pandemic has a profound impact on the social and economic development of the country as the age groups mostly affected are the economically active group, between the ages of 29 and 35 years (NDoH, 2011; Nel et al., 2006). It is expected that HIV/AIDS will reverse the progress in economic development as HIV and AIDS translates to the economy through workforce morbidity with specific reference to absenteeism, decreased productivity, rising production costs and higher employee turnover and thus loss of income to companies (Simtowe & Kinkinginhoun-Medagbe, 2011). While not specifically investigated in South Africa, the impact of HIV and AIDS related presenteeism (being at work but a health problem restricts job performance), might have an astronomical impact on a company's production costs. The HIV and AID epidemic thus pose a serious threat to business and in particular the manufacturing and engineering sector in

South Africa as reflected in the 2005 SABCOHA survey conducted among 1032 companies in the mining, manufacturing, retail, wholesale, motor trade, building and construction sectors, the financial services and transport and storage sectors (Ellis & Terwin, 2005). The worst affected sectors were found to be the mining sector followed by the manufacturing, transport and storage sectors. In comparison to medium and large companies, small companies (less than 100 employees) have reported less noticeable HIV and AIDS related impacts. In accordance with provincial HIV prevalence rates, the companies in KwaZulu-Natal and Gauteng reported to experience a more noteworthy impact than others located in the Western Cape.

A comprehensive response to HIV and AIDS in the workplace in terms of prevention, treatment and support have been placed on the agendas of Governments, the World Economic Forum, the Global Coalition on HIV/AIDS and the International Labour Organisation (ILO). The global involvement of the private sector in HIV and AIDS is mainly to restrain human suffering and the negative macroeconomic impact of HIV and AIDS. In South Africa the business sector generally and in particular the South African Business Coalition on HIV and AIDS (SABCOHA), recognise the profound impact of HIV and AIDS and desires to respond appropriately and effectively by motivating companies to address the challenges posed by HIV and AIDS in an effective, proactive and reactive way to counter its negative consequences.

The HIV and AIDS epidemic has been reported to pose a particular threat to the manufacturing and engineering sector in South Africa (Ellis & Terwin, 2005). The South African private sector, various corporate structures like the Automotive Industrial Development Centre (AIDC), and SABCOHA have therefore advocated for and supported the implementation of HIV and AIDS workplace programmes (HAWPs). It is argued that company initiatives can slow down the HIV infection rate and reduce human suffering by improving knowledge regarding HIV/AIDS, tuberculosis (TB), facilitate access to HIV counselling and testing (HCT), and the timely support and treatment of HIV infected employees and their partners (Department of Labour, 2000; 2000b). As the consequences of the HIV and AIDS pandemic become evident in declined productivity and organisation competitiveness, it is clear that the success of any business is inextricably linked to the health and productivity of its employees (Bloom & Canning, 2005; Cancelliere, Cassidy, Ammendolia & Côté, 2011; Kuoppala, Lamminpää, &

Husman, 2008). For example Daimler Chrysler established that the prevention of an HIV infection among their South African employees may save between \$25 000 to \$280 000, depending on the job and skills level (AIDS Foundation, 2010).

While many organisations have responded to the HIV/AIDS challenge by implementing HAWPs, others who do not perceive HIV and AIDS as the main health condition influencing their competitiveness and profits, have been slow to respond. The automotive component manufacturing sector seems to face challenges in this regard despite the fact that 33% of companies in a study perceived HIV and AIDS to have a major impact on profits and indicated that investment decisions were influenced by HIV/AIDS related factors (Camagu, 2009). It is likely that the implementation of HAWPs is hampered when companies are not convinced that HIV/AIDS is the main negative health influencing factor responsible for increased production costs. The SABCOHA 2005 survey found that in comparison to medium and large companies, small companies (less than 100 employees) have reported less noticeable HIV and AIDS related impacts (Ellis & Terwin, 2005; Ellis, 2006). Another important factor might be perceptions that a HAWP is unlikely to successfully address their health challenges. The question arises whether comprehensive wellness programmes that also address the perceived negative health influencing factors on company production costs, would not be considered more acceptable and thus successful.

Current practice is showing that large South African Original Equipment Manufacturers (OEMs) like for example Ford, Volks Wagen, General Motors and Mercedes-Benz have incorporated HIV and AIDS programmes into wellness workplace programmes (WWP), also addressing other health conditions (C. Panter, personal communication at workshop *Wellness Works Well*, November 2009). In addition, the inter-relatedness of various risky lifestyle factors linked to health conditions necessitate a comprehensive health promotion approach. As the workplace has become a key health promoting setting, efforts should be directed to enhance health and wellbeing through specific corporate strategies (Dornan & Jané-Llopis, 2010; WHO, 2010; ILO, 2009).

Interventions better able to address the various negative health influencing factors perceived by organisations to impact production costs, might not only be more acceptable but could also provide the necessary platform to address HIV and AIDS.

Little is however known of the health conditions perceived to negatively impact production costs of companies in the automotive sector and their responses in this regard.

1.2 Aims and objectives of the study

The aim of this study was thus to gain a better understanding of the perceptions of organisations, in the South African automotive manufacturing sector, regarding the impact of HIV and AIDS and other health conditions on their production costs and their related responses, particularly with regards to the implementation of HAWPs and WWPs.

1.2.1. Study objectives

The specific objectives of the study are to:

- Understand the perceived impact of HIV and AIDS including other health conditions on the production costs of organisations with consideration of company size and ownership.
- Investigate organisations' efforts towards monitoring and managing the health influencing conditions in terms of organisation size and ownership.
- Determine the kind of health promotion interventions in organisations in terms of i) HIV and AIDS education programmes, ii) HIV Counselling and Testing (HCT) initiatives, iii) provision of ART and the implementation of iv) wellness programmes with consideration of company size and ownership.
- Investigate the association between perceived impact of HIV and AIDS on companies' production costs and specific responses to HIV and AIDS i.e. education programmes, HCT services, provision of ART, and the implementation of comprehensive workplace wellness programmes.
- Study perceptions of organisations pertaining to the likely success of health promotion interventions i.e. wellness and HIV and AIDS programmes in addressing their health challenges in terms of company size and ownership.

It is envisaged that the study will contribute to a better understanding of the perceived impact of HIV and AIDS in relation to other health influencing factors on companies in the South African automotive sector and their responses to these challenges. While some

information does exist with regards to HIV and AIDS, a paucity of information exists on South African organisations' views about other health influencing factors, and more so within the automotive manufacturing sector.

1.3 Ethical considerations.

Ethical clearance for the broader study was obtained from the Ethics Committee of the University of KwaZulu-Natal as well as the specific study. Ethical principles were adhered to i.e. informed consent, voluntary participation and confidentiality of the data. Further details are presented in the Methodology section of the dissertation (Chapter 3). The study proposal was also submitted for approval to the following collaborating organisations: inWent (Internationale Weiterbildungs und Entwicklungsgesellschaft, a German training and development organisation working in South Africa); AWISA as well as AIDS Workplace Programmes in Southern Africa as well as the Automotive Industry Development Centre.

1.4 Outline of the dissertation.

The outline of the dissertation and the aspects that are discussed in each chapter is outlined hereunder.

Chapter 1: In this chapter a short introduction to the study will be presented with a focus on the rationale for the study and the presentation of the different chapters of the dissertation.

Chapter 2: The Literature review and theoretical underpinnings of the study are addressed in this chapter. A comprehensive overview is given of HIV and AIDS in South Africa with a focus on the manufacturing and engineering sector. Organisations' responses to HIV and AIDS received attention. The broad theoretical framework for workplace health promotion is presented lastly.

Chapter 3: Methodology. In this chapter the different phases of the study is outlined with regards to research design, sampling, research instruments used and analysis used in phase 1, a quantitative, cross sectional survey and phase 2, a qualitative study.

Chapter 4: The results of the study are presented in this chapter with the primary focus on the quantitative data. The qualitative data is integrated into the relevant sections.

Chapter 5: The discussion of the results occurs in this chapter with due consideration of interpretation and integration of the literature followed by the conclusions and recommendations emanating from the results. The limitations of the study will also be outlined in this section.

Appendix A: Informed consent documentation

Appendix B: Research instrument

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

In this chapter a literature overview is given of the literature on the impact of HIV and AIDS on the world of work with some attention to other related health influencing factors. As the study was conducted among organisations in the automotive sector, relevant literature pertaining to this sector as well as the manufacturing and engineering sector is presented. In the absence of sector specific information, a more general discussion of HIV and AIDS is presented. First the chapter is introduced by providing a general overview of the HIV and AIDS prevalence and in terms of demographic factors. This section is followed by an explanation of how HIV and AIDS impact on an enterprise through both internal and external factors e.g. factors related to HIV infection among employees and its influence on an enterprise's production costs and efficiency.

In the following section attention is given to business's responses to HIV and AIDS and related aspects i.e. AIDS policies, education and HIV Counseling and Testing (HCT) interventions as well as psychosocial support and Antiretroviral treatment (ART). Then an overview is presented of comprehensive workplace wellness programmes (WWP) with a brief reference to other related health factors which may impact on the workplace i.e. tuberculosis, alcohol use, stress and other chronic diseases.

The chapter is concluded by presenting a holistic health promotion framework in which the study is located. The health promotion framework underpins the core principles of a health promoting workplace in terms of ethics and values, the physical and psychosocial work environment as well as the necessary personal and environmental health resources required for health. In the application of this framework to the study, only some elements of this holistic approach were considered due to the study's limited scope e.g. supportive organisational policies and access to health promotion interventions including health education, monitoring, support and treatment to enhance personal health resources.

2.2. The prevalence and incidence of HIV and AIDS in South Africa

In this section a brief overview is given of HIV and AIDS in South Africa with consideration of the current prevalence and incidence. The impact of HIV and AIDS on the South African workforce is discussed in the next section. This information provides a background to the impact of HIV and AIDS on the South African economy in general and the manufacturing and engineering sector.

Within South Africa, the annual antenatal surveys conducted by the NDoH since 1990 provides a picture of how the epidemic has unfolded over the years. From a prevalence of below 1% in 1990, the epidemic grew at an exponential rate during the 1990s to reach a prevalence rate of 27.9% among pregnant women in 2003 and in 2011, 29.5% were HIV-positive (NDoH, 2012; UNAIDS, 2009). The prevalence rates by province as estimated from the antenatal surveys of 2008 to 2011 can be viewed in Table 1 (NDoH, 2011; 2012). In accordance to the 2011 survey (ibid), the province with the highest HIV infection rate is KwaZulu-Natal (37.4%) followed by Mpumalanga, Free State and North West with overall prevalence rates greater than 30.0%. The HIV prevalence rates for Gauteng, Limpopo and the Eastern Cape range between 20.0% and 30.0% while the Western and Northern Cape provinces reported to have the lowest prevalence (below 18.2% and 17% respectively).

2.2.1 HIV prevalence by age

National or provincial estimates of HIV, based on antenatal HIV prevalence, are useful for tracking the course of the epidemic. However, these estimates do not provide a picture of the variations in prevalence by various demographic and socio-economic factors such as gender, race and socio-economic status. Disaggregated data is made available through community based or specific sub-population studies and provides some information on HIV prevalence in relation to gender, age and socio-economic status. The Human Science Research Council (HSRC) / Nelson Mandela Foundation (NMF) 2002, 2005 and 2008 surveys on prevalence, behavioural risks and mass media, provide an insight into how HIV is distributed among sub-populations within South Africa. While these findings are surrounded with controversy and fierce debates about survey and data limitations as well as vague and ambivalent study conclusions (Dorrington, 2009; Dorrington & Bourne, 2008), these surveys nevertheless provide useful information. The prevalence by age groups as estimated from the antenatal

surveys of 2008 to 2011 (NDoH, 2011; 2012) can be viewed in Table 2 and in Table 3 from the HSRC surveys of 2002, 2005 and 2008 (Shisana et al., 2009).

From Table 2 it is clear that the estimated national HIV prevalence amongst the women has remained relatively stable over 2008 and 2009 (29.3% and 29.4%) with a slight increase in 2010 to 30.2% in 2010. Some evidence point to the slight decline in the prevalence among young people (aged 15–24) as found among antenatal clinic attendees from about 22.4% in 2006, 22.1% in 2007 and 21.7% in 2008 (NDoH, 2009). The HIV prevalence for this group was 21.8% in 2010. A slight increase was found in HIV prevalence in the age group 15-19 years from 13.1% in 2007 to 14.1% in 2008 (ibid). However a slight decrease was noted to 13.7% in 2009 and a slight increase of 0.3% to 14% in HIV prevalence among this age group in the 2010 survey (NDoH, 2011).

Table 1

HIV Prevalence by Province among Antenatal Clinic Attendees, South Africa: 2008-2010 (NDoH, 2011, p. 41 and NDoH, 2012, p.14)

| Province | HIV ⁺ 95% CI |
|-----------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | 2008 | 2009 | 2010 | 2011 |
| KwaZulu-Natal | 38.7 (37.2-40.1) | 39.5 (38.1-41.0) | 39.5 (38.0-41.0) | 37.4 (35.8-39.0) |
| Mpumalanga | 35.5 (33.1-37.8) | 34.7 (32.5-36.9) | 35.1 (32.6-37.7) | 36.7 (34.3-39.2) |
| Free State | 32.9 (30.5-35.3) | 30.1 (28.1-32.1) | 30.6 (28.3-33.0) | 32.5 (30.5-34.5) |
| Gauteng | 29.9 (28.4-31.2) | 29.8 (28.6-31.1) | 30.4 (29.1-31.8) | 28.7 (27.3-30.1) |
| North West | 31.0 (28.8-33.3) | 30.0 (27.5-32.6) | 29.6 (27.3-31.9) | 30.2 (28.2-32.4) |
| Eastern Cape | 27.6 (25.6-29.6) | 28.1 (26.1-30.1) | 29.9 (28.2-31.7) | 29.3 (27.5-31.1) |
| Limpopo | 20.7 (19.1-22.4) | 21.4 (19.7-23.1) | 21.9 (20.3-23.6) | 22.1 (20.6-23.7) |
| Northern Cape | 16.2 (13.7-18.9) | 17.2 (14.3-20.5) | 18.4 (16.1-21.1) | 17.4 (14.3-20.0) |
| Western Cape | 16.1 (12.6-20.2) | 16.9 (13.8-20.5) | 18.5 (15.1-22.5) | 18.2 (14.3-22.8) |
| National | 29.3(28.5-30.1) | 29.4(28.7-30.1) | 30.2(29.4-30.9) | 29.5(28.7-30.2) |

A similar trend is observed in Table 3 among young men and women surveyed in the national HSRC population based surveys where the reported prevalence has declined from 10.3% in 2005 to 8.7% in 2008 (Shisana et al., 2009). Stabilization is also noted from 2002–2008 to 11% of HIV prevalence of all people aged 2+ years. Some changes however occurred in different age groups. The prevalence has decreased by a difference of 3.1% from 2002–2008 in children aged 2–14 years. The decrease in HIV prevalence

among young people aged 15–24, was only observed from 2005–2008. However, the HIV prevalence increased by 1.3% from 2002–2008 among adults aged 25+ years. A similar trend is noticed in the 15–49-year-old age group.

Table 2

HIV Prevalence by Age Group among Antenatal Clinic Attendees, South Africa: 2008-2011 (NDoH, 2010 (p.47); 2012 (p.20))

| Age Group (Years) | HIV ⁺ 95% CI |
|----------------------|-------------------------|-------------------------|-------------------------|-------------------------|
| | 2008 | 2009 | 2010 | 2011 |
| 15-24 | 21.7 (21.0-22.3) | 21.7 (20.9-22.5) | 21.8 (21.0-22.3) | 20.5 (19.7-21.3) |
| 15-19 | 14.1 (13.1-15.0) | 13.7 (12.9-14.7) | 14.0 (13.1-14.9) | 14.0 (13.1-14.9) |
| 20-24 | 26.9 (25.9-27.9) | 26.6 (25.6-27.6) | 26.7 (25.7-27.8) | 26.7 (25.7-27.8) |
| 25-29 | 37.9 (36.4-39.3) | 37.1 (35.8-38.4) | 37.3 (36.0-38.7) | 37.3 (36.0-38.7) |
| 30-34 | 40.4 (38.7-42.0) | 41.5 (39.9-43.1) | 42.6 (40.9-44.2) | 42.6 (40.9-44.2) |
| 35-39 | 32.4 (30.5-34.3) | 35.4 (33.5-37.3) | 38.4 (36.3-40.5) | 38.4 (36.3-40.5) |
| 40-44 | 23.3 (20.3-26.6) | 25.6 (22.5-29.0) | 30.9 (27.5-34.5) | 30.9 (27.5-34.5) |
| 45-49 | 17.6 (10.7-27.7) | 23.9 (15.8-34.6) | 28.2 (18.1-41.2) | 28.2 (18.1-41.2) |

Table 3

HIV prevalence by age in South Africa (HSRC surveys 2002, 2005, 2008)

| Age | 2002 | | | 2005 | | | 2008 | | |
|--------------------------------|-------|------|----------------|--------|------|-----------|--------|------|-----------|
| | n | % | 95% CI | n | % | 95% CI | n | % | 95% CI |
| Children (2-14 yrs) | 2 348 | 5.6 | 3.7-7.4 | 3 815 | 3.3 | 2.3-4.8 | 3 414 | 2.5 | 1.9-3.5 |
| Youth (15-24 yrs) | 2 099 | 9.3 | 7.3-11.2 | 4 120 | 10.3 | 8.7-12.0 | 3 617 | 8.7 | 7.2-10.4 |
| Adults (≥25) | 3 981 | 15.5 | 13.5-17.5 | 7 912 | 15.6 | 14.2-17.1 | 7 191 | 16.8 | 15.3-18.4 |
| Total (≥2) | 8 428 | 11.4 | 10.0-12.7 | 15 847 | 10.8 | 9.9-11.8 | 14 222 | 10.9 | 10.0-11.9 |
| 15-49 yrs | 4 795 | 15.6 | 13.9 - 17.6 | 9 245 | 16.2 | 14.9-17.7 | 8 106 | 16.9 | 15.5-18.4 |

2.2.2. HIV prevalence by sex

The age-specific prevalence by gender reported in 2008 (Shisana et al., 2009) indicated that the prevalence of the female population is substantially higher than males with the highest proportion of infections being among women between the age of 25 and 29. HIV

prevalence was highest in females (32.7%) between the ages of 25–29 years and for males (25.8%) between the ages of 30–34 years old.

The HIV prevalence of sex by age according to the same survey indicated sex variations in the younger age groups and is pronounced among young females e.g. among 15–19-year-olds, i.e. a prevalence that is 2.7 times higher than that of males. In comparison to males, sharp increases in HIV prevalence among females is noticed in the following age cohorts: 21.1% among 20–24-year-olds, and 32.7% among 25–29-year-olds. A disproportional decline for the age group of 30–34 is reported, though HIV prevalence remains higher among females. The South African National HSRC HIV Survey (2008) found an overall prevalence among women to be 13.6% compared to 7.9% among men (Shisana et al., 2009). This gender discrepancy is considered the norm in countries that have generalized heterosexual HIV epidemics (Abdool Karim & Abdool Karim, 2005; Abdool Karim et al., 2002) and this gender disparity is also reflected in the southern African countries most affected by HIV e.g. the prevalence rate among young females aged 15–24 years is about three times higher than among young men of a similar age (Gouws, Stanecki, Lyerla & Ghys, 2008).

While the prevalence of women between the ages of 30 and 39 has increased since 2002 (from 24.1% to 29.1%), there is encouraging data on the prevalence rate of younger males and females in comparison with the 2002 survey (Shisana & Simbayi, 2002; Shisana et al., 2009).

- the prevalence rate amongst 2 – 24 year olds of both genders has declined;
- the prevalence rate between the ages of 25 and 29 has remained stable; and
- the prevalence of HIV infection among children 2 – 14 years of age has seen the greatest percentage point decline. This is mostly due to the roll out of the programme to prevent parent-to-child transmission (PTCT) - which is estimated to have reduced the number of babies infected from 75 000 to 30 000 (ibid).

2.2.3. HIV prevalence by race

From the first HSRC survey conducted in 2002 (Shisana & Simbayi, 2002) the data depicted a prevalence of 6.2% among the White population, not previously detected in the national antenatal surveys, and a prevalence of 18.3% among the Black population. This level of infection was suggestive of a generalised epidemic. The results of the latest survey in 2008 showed a prevalence of 13.6% among Blacks and 0.3% among Whites.

The dramatic decrease in HIV prevalence among Whites is not discussed in the report but forthcoming publications might shed light on this issue. In the antenatal surveys of 2010 and 2011 (NDoH, 2011; 2012) the HIV prevalence among race groups indicated a prevalence of 32.5% versus 31.4% among Africans, followed by 7.1% versus 8.8% among Asians, 7.0% versus 7.6% among Coloureds and 3% versus 1.1% among Whites respectively.

2.2.4. HIV and Socio-economic status

In accordance with the region's generalised epidemic, HIV affects all groups in sub-Saharan Africa irrespective of their social and economic status. Shisana and Simbayi (2002) reported that level of education played a role in the likelihood of being HIV infected, as Blacks with a Grade 12 (matric) level education were more likely to be infected (21.1% were infected) than those with no schooling (8.7% were infected). In the latest 2008 survey report (Shisana et al., 2009) this issue was not reported on and is likely to receive some attention in future publications.

While education is often linked to socio-economic status, the relationship between HIV infection and income show some variation in studies conducted in different settings in sub-Saharan Africa (Piot, Greener, Russell, 2007). Shisana and Simbayi (2002) reported that HIV infection was not confined to people in lower socio-economic strata as the data showed that for Africans in South Africa, the possibility of HIV infection was similar across self-reported socio-economic status, a likely consequence of a generalised HIV epidemic. Similarly, a study in Lesotho reported that the HIV prevalence for women and men irrespective of different income and level of education was 15% or higher in 2004 (Khobotlo, 2009).

The complexity of the epidemic makes the interpretation of HIV prevalence trends in South Africa difficult e.g. the epidemic matures simultaneously when large scale prevention, care and treatment initiatives are implemented (Shisana et al., 2009). It was further stated that the expansion of the ART programme in combination with effective prevention efforts might maintain the existing HIV prevalence rates, making conclusions about the course of the epidemic difficult. Dorrington, Bradshaw, Laubscher & Timaeus (2006) argued strongly for the strengthening of national responses to the epidemic in light of the prevalence projections of over 6 million by the year 2015.

2.2.5. HIV prevalence estimates for populations most-at-risk

Most-at-risk populations (MARPs) in the generalised epidemic of South Africa are considered to be (a) “African females aged 20–34; (b) African males aged 25–49; (c) Males older than 50; (d) Men who have sex with men (MSM), (e) Persons who are high-risk drinkers; (f) Persons who use drugs for recreational purposes, and (g) People with disabilities” (Shisana et al., 2009, p.4). The latter group is viewed as marginalized and very little information with regards to HIV prevalence among them has been reported. The HIV prevalence rates of men who have sex with men (MSM) among different sub-populations were between 12.6% to 47.2% (Burrell, Baral, Beyrer, Wood, & Bekker, 2009; Lane, Shade, McIntyre & Morin, 2009; Rispel et al., 2009). The group with the highest HIV prevalence was African females (20–34 years) followed by African males (25–49 years), the group considered to be economically active. The lowest prevalence reported was for males 50 years and older as well as for MSM. In the next section the impact of HIV and AIDS on companies is discussed.

2.3 The impact of HIV and AIDS on companies

In Southern Africa HIV and AIDS have increasingly become the dominant issue on corporate strategic agendas, as the economic impact of HIV and AIDS has become a reality and experienced by most business sectors from big business with both skilled and unskilled workers to medium, small and micro enterprises (SMMEs). Organisations are likely to be confronted with early retirements, disability retirements and even industrial disputes due to HIV and AIDS. It is also clear that HIV and AIDS will impact the working population profile pertaining to age, work experience and skills level. The challenges and impacts have extended the human resource concern and are now viewed as a business risk, as HIV and AIDS seem to affect the efficiency and competitiveness of organisations and their supply chain. In a study conducted in Southern Africa it was estimated that the combined impact of AIDS-related absenteeism, reduction in productivity declines, expenses related to recruitment and training as well as increased health-care costs can reduce organisation profits by at least 6-8% (Simtowe & Kinkinginhoun-Medagbe, 2011). However, the impact on a particular sector or company varies depending on the nature of the business, geographic location, size, workforce structure and extent of employee benefits.

Attention will now be given to ways in which HIV and AIDS are likely to impact on organizations with specific attention on the experiences of the manufacturing and engineering sector. While the focus of this review is on the effects of HIV and AIDS on the manufacturing and engineering sector with particular interest in the automotive sector, reference is made to the impact of HIV and AIDS on other related sectors due to the dynamic and reciprocal interaction between the different sectors.

2.3.1 Impact of HIV and AIDS on an organisation

The specific way in which HIV and AIDS impact on business and the workplace is still unclear due to the dynamics involved in the disease i.e. the time line for people to develop AIDS differs and the likely effect of prevention and treatment interventions. These aspects make it difficult for business to fully understand and predict the impact of HIV and AIDS on the business sectors. Irrespective of doom talks, the South African economy has not collapsed due to AIDS, but do face challenges such as a high unemployment rate (Coats et al., 2007), further heightened by the world economic recession. However, research evidence do suggest that the HIV/AIDS epidemic is having a significant impact on the financial viability of businesses in South Africa (Bureau for Economic Research, 2004; Rosen et al., 2004, Ellis & Terwin, 2005) and in other African countries (Rosen et al., 2004). A general concern is that few companies have investigated the potential internal and external impact that HIV and AIDS might have on their companies and are therefore not always able to determine the effects of the HIV epidemic on their production costs and productivity overall. Most available data in this regard comes from the few and very specific case studies (Rosen, Feeley, Connelly & Simon, 2007).

In studies among the different sectors, Evian, Fox, MacLeod, Slotow and Rosen (2004) found that the highest HIV infection rates are in the mining (18.0%) and metal processing (17.3%) sectors. While males comprised 85% of the participants, they were more likely (16.3%) to be infected than females (10.7%). The 2005 SABCOHA survey (Ellis & Terwin, 2005) conducted among 1032 companies in the mining, manufacturing, and retail, wholesale, motor trade, building and construction sectors, the financial services and transport and storage sectors, reported that the sectors most severely affected are the mining sector followed by the manufacturing, transport and storage sectors. The responses varied across companies of different sizes, skills levels and

geographical location especially across the different provinces. In comparison to medium and large companies, small companies (less than 100 employees) seemed to experience less noticeable HIV and AIDS related impacts. In accordance with provincial HIV prevalence rates, the organisations in KwaZulu-Natal and Gauteng reported to experience a more severe impact than organisations in the Western Cape.

A visual illustration of the likely impacts that a company might experience as a result of HIV and AIDS is depicted in Figure 2. Two predominating outcomes are presented, namely increased costs and reduced productivity, which suggests declining profits. The impact is deemed to be a result of internal and external factors. Internal effects arise from employees being infected with HIV. Internal factors can often be addressed more easily than external factors while external factors include changes in demand for goods or services and increasing levels of crime. Key internal and external factors are outlined below and are discussed in more detail after the presentation of the model in Figure 1.

Internal Factors – HIV infection among employees

HIV infection among employees is likely to increase absenteeism as well as presenteeism, not only directly related to opportunistic infections, and stress, but also through increased family demands e.g. care giving needs and attendances of funerals. Loss of labour and productivity will not only stem from absenteeism, but lower morale of infected and affected workers is likely to impact on company production costs. Furthermore, increased costs related to employee medical schemes and pension benefits are likely to undermine profitability. The skills shortage due to morbidity and to a lesser extent mortality (in presence of ART) is anticipated to interrupt production, while increased costs to recruit and train scarce skilled people in highly competitive markets is likely to weaken organisation performance overall.

External Impacts – change in consumer demands

The external impacts relate to changes in the demand for products through decreased spending as a result of HIV and AIDS. However, when this model was conceptualized the impact of ART was not integrated, nor is its influence on morbidity and mortality clear as the demand for ART will increase while government and business response in this regard may be lacking behind.

In the following section some of the above mentioned *internal and external factors* that impact on business will be discussed in terms of the available literature with specific reference to the manufacturing and engineering sector.

2.3.2. Impact of internal factors on organisation efficiency and competitiveness

The internal factors on the organisation are addressed primarily in terms of ill health and the consequences thereof for the organisation.

Ill Health and Death

The impact of HIV and AIDS on companies is argued to occur through absenteeism and loss of productivity (Akinyemi, 2008; Vass, 2002). The HIV and AIDS challenge manifests itself through unscheduled sickness and absenteeism. In some instances illness is surrounded by secrecy and companies can only infer that absenteeism is AIDS related. The South African Constitution, (Act 108 of 1996) and specifically the *Bill of Right*, enshrines the rights of all people in terms of human dignity, equality and freedom, and thus employees are under no obligation to disclose their status. Therefore employers are not able to manage and cost HIV related sick leave (George, 2006). Workplace culture may also hamper disclosure of an HIV status to colleagues and management, as they may fear possible stigmatization, victimisation and discrimination (Bhagwanjee, Petersen, Akintola & George, 2008).

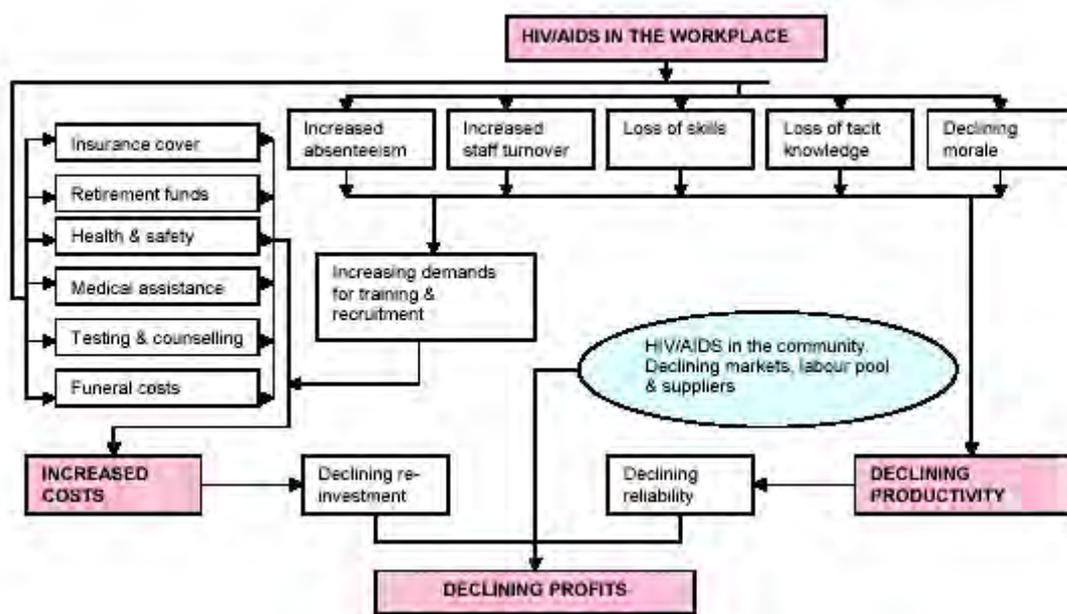


Figure 1: Impact of HIV/AIDS on an enterprise (Adapted from ILO, UNAIDS, 2003, p.1)

In a survey done by Bowler (2004) in the Nelson Mandela Metropolitan Municipal Areas, 64% of the workplaces claimed to have experienced AIDS related deaths. The study, involving 22 265 employees, explored the impact of HIV and AIDS in 14 workplaces of which 13 were in manufacturing and one in the service sector. Through medical aid tracking of HIV positive employees, anecdotal evidence in one workplace suggests that once ill, death followed quickly (Bowler, 2004). A report in AIDS Watch (2008, as cited in Jantjie, 2009) has projected that AIDS deaths of employees in the South African workforce is likely to exceed the combined causes of other deaths. However, the influence of ART seemed not to have been considered. The estimated cost of an employee lost due to AIDS, was calculated to fluctuate between 0.5 to 5.6 times the average annual payment of the particular employee (Rosen et al., 2007).

Absenteeism and death of co-workers have a negative impact on employee morale and should not be underestimated (Akinyemi, 2008; Vass, 2002). It was argued by Hall (2004) that HIV and AIDS influence the working conditions of employees in terms of stress experienced, their job satisfaction, workload, and performance etc. which in turn may impact company retention of employees. Evidence of the impact is also noted in the escalating remuneration costs linked to increased competition among the limited number of skilled workers (Thurlow, Gow & George, 2009; Simtowe & Kinkinginhoun-Medagbe, 2011).

Loss of skilled manpower due to HIV and AIDS

The Global Health Initiative (GHI) of the World Economic Forum's annual survey reported that 46% of the 10 993 business executives in the 117 countries survey were concerned about the continued reduction of the workforce due to HIV (Bloom, Reddy, Bloom & Weston 2006). Existing evidence suggests that HIV and AIDS are likely to change the workplace demographics i.e. the working population profile pertaining to age, skills, and work experience. It has been argued by Thurlow et al. (2009) that the general extent of the HIV and AIDS pandemic in combination with the HIV prevalence of 18.1% among people between the ages of 20 and 49 years, is likely to have negative consequences for the South African workforce.

While South Africa is considered to have a labour surplus with a workforce of about 20.1 million, a shortage of skilled labour is experienced as a result of the poor quality of education and the low economic growth (Woolard, Kneebone & Lee, 2003). This is further compounded by the high school drop-out rate among the workforce (of the 94% of the workforce that go to school about 53% leave school before grade 12). South Africans who do not have a high school education have been reported to be more likely to be unemployed, especially if they are infected with HIV. Thus irrespective of a labour surplus and high unemployed rates, being infected with HIV have been reported to further compromise and reinforce existing inequalities in South Africa (Levinsohn, McLaren, Shisana and Zuma, 2011).

In South Africa there is currently increased wage differentiation and employee movement, and while employment equity factors play a role, HIV and AIDS are assumed to further intensify these incidences (Thurlow et al., 2009). Employee turnover rates require adjustments by business and employees and might lead to loss of management time, experience, skills, workplace cohesion and declining employee morale. It can thus be concluded that the influence of HIV and AIDS regarding the loss of skilled labour and related costs e.g. training, recruitment, medical schemes and pension benefits etc. may have grave consequences for the global competitiveness of South African companies.

Labour productivity

Labour productivity has been found to be negatively affected by HIV and AIDS for about 70% of the mining companies and for 50%-60% of the manufacturing, transport and financial services companies that participated in the SABCOHA 2005 survey (Ellis & Terwin, 2005). In a comparative study by Rosen et al. (2007), most companies found AIDS to cause a moderate increase in labour costs primarily due to HIV prevalence rates among employees. This related particularly to skills levels and its impact on employment policies. While it was estimated that labour costs increased from 0.6 to 10.8%, it was reported that it exceeded 3% in only two of the 14 companies that were studied.

According to Coulibaly (2005), the labour market structure is influenced by interrelated factors e.g. the increased dependency ratio due to higher number of widows and orphans

and attempts by them to enter the labour market in seeking of a livelihood; greater entry attempts of unskilled youth into the active labour force as the infected economically active people (generally 20 – 49 age group) exit the labour market; as well as the premature exit of people living with AIDS (PLWA) from the workplace and the subsequent requirement to retain older persons in the labour force who might not necessarily be able to meet strenuous labour market demands.

In the study of Levinsohn et al. (2011), it has been found that being HIV-positive increases the likelihood with about 6% -7% of being unemployed.

It should be borne in mind that businesses that depend on migrant labour will also be most seriously affected by HIV and AIDS (Levinsohn et al., 2011; Whiteside & Sunter, 2000), as HIV prevalence among this group is generally higher (ICAD, 2004 as cited in Bowen, Dorrington, Distiller, Lake & Besesar, 2008) and supported by the SABCOHA 2005 survey results (Ellis & Terwin, 2005). The nature of migrant employment increases workers' HIV vulnerability as the risk conditions in which they live will promote poor lifestyle choices (Deacon & Smallwood, 2003; Ellis & Terwin, 2005; Haupt, Munshi & Smallwood, 2005). It is also important to consider the HIV and AIDS prevalence among the South African workforce in order to understand its likely impact.

HIV and AIDS prevalence in the workplace

The HIV prevalence in low-risk populations in sub-Saharan Africa are estimated from sentinel antenatal surveys and therefore not representative of the formal labour force. Dr Clive Evian has conducted surveys to determine HIV prevalence among 34 workforces with 44,000 employees in South Africa, Botswana, and Zambia in 2000 and 2001 (Evian et al., 2004). The South African workforce was found to have a HIV prevalence of 14.5%, Zambia 17.9% and Botswana 24.6%.

The anonymous seroprevalence studies conducted among different workforces by the Medical Research Council (MRC) in 2004 within South Africa found similar HIV prevalence than reported by the household survey of the HSRC in 2002 (Shisana et al, 2005). Table 4 provides us with an illustration of the earlier HIV prevalence of employees in four provinces.

In the workplace surveys conducted by Colvin et al. (2007) in 22 organisations, of both the public and private sectors from 1999 to 2005, yielded information on HIV prevalence among the different race groups. It was argued that race per se, does not increase the risk of infection but race seems to be a proxy for other factors that increase HIV vulnerability (Colvin et al., 2007). The crude HIV prevalence was

Table 4

Workforce prevalence in South African provinces (Adapted from MRC, 2004)

| Province | No. of Workers | % HIV + | Household Survey % HIV+ |
|-----------------|-----------------------|----------------|------------------------------------|
| KZN | 2 364 | 9.4 | 11.7 |
| Gauteng | 1 167 | 12.3 | 14.7 |
| Western Cape | 528 | 12.9 | 10.7 |
| Eastern Cape | 2 032 | 6.5 | 6.6 |

lower than the HIV prevalence from the NDoH's antenatal surveys at the time. In Table 5, the HIV prevalence of the workforce from the surveys by Colvin et al. (2007) are presented i.e. employees in the public sector (11.8%), followed by those employed in utilities/parastatals (14.8%) and private sector companies (14.8%).

It should be noted that while HIV prevalence is used to estimate the number of future illnesses, deaths, and orphans, caution should be used and the limitations of existing HIV prevalence data should be considered. The projections by demographic models such as ASSA2009 used for estimated and projected impact, i.e. population growth, life expectancy, deaths and ART influence should be interpreted with caution due to various uncertainties.

Nevertheless, the high-risk sectors and companies are likely to experience large-scale loss of existing skills, institutional memory and increased labour turnover, as more workers contract opportunistic infections, suffer AIDS-related illnesses and, as a result, have to leave the company or die in service, if timely access to ART is not available. The companies placed in the low-risk sectors, whilst not facing the impact on such a scale, will experience some of the effects suggested above. On a macro-economic level, the HIV risk exposure of critical sectors is important as the potential impact on contributions to export earnings, as is the case in the mining and manufacturing sector

may be significant. The impact of ART in terms of the extent of absenteeism and productivity is still uncertain.

Skills level and HIV infection

The HIV epidemic has become concentrated among economically disadvantaged populations, because the wealthier and better educated are likely to have better access to information about prevention and are thus able to preserve their health and is also more likely to have timely access to ART (Vass & Phakhati, 2006). Another probable argument offered is that those who have accumulated skills and experience, might be motivated to preserve personal capital (family home and personal status in community and their social aspirations) and social capital by engaging in safer sexual practices.

However, the relationship between skills level and HIV prevalence is however not always clear as studies have reported contradictory results. Vass and Phakhati (2006) stated that although HIV prevalence is often viewed as dependent on age, sex, population group and skills level, some variations are evident at an organisation level e.g. HIV prevalence rates for African men in the different skills categories differed in their study among SMMEs. In the one reported case study, i.e. Autolive (Pty) Ltd., HIV prevalence variations were found for African and Coloured women in the semi- and unskilled positions and highlights the existing discrepancies among HIV prevalence and skills level. They argued that the low HIV prevalence found among these women could partly be explained by the relatively older age profile of the employees and the stability of the workforce i.e. the average duration of continuous service was 13 years. However, in their other case studies, HIV prevalence among younger African females reflected the high national HIV prevalence rates. Contradictory results were also reported by Thurlow et al. (2009) where similar HIV prevalence rates were found among workers in the agricultural sector in KwaZulu-Natal, irrespective of occupational group i.e. managers and labourers.

In relation to the HIV vulnerability of employees, it is important to consider the general skills level of 63 308 employees in the manufacturing sector that participated in the 2005 SABCOHA survey (Ellis & Terwin, 2005). Companies that employed

predominantly semi-skilled and unskilled workers reported to be more negatively affected (50% and 34% HIV prevalence respectively) than those that employ predominantly highly skilled workers (16% HIV prevalence).

Workplace surveys conducted by Colvin et al. (2007) supported this view as HIV prevalence was significantly lower among the managers (5.3%) in comparison to skilled (6.9%) and unskilled employees (12.4%). Education also played a significant role in that employees with post school education had a lower HIV prevalence than those with secondary school and primary school education (7.1% versus 13.6% and 18.7% respectively).

The surveys conducted by Thurlow et al. (2006) among organisations in the manufacturing, tourism and transport sectors, yielded similar results as above except for the results of the survey conducted in the agricultural sector (as referred to above). The HIV prevalence for organisations in the manufacturing sector was highest in the 35 to 49 age cohort with a reported prevalence of 24.7 for managers, 27.2 for skilled workers and 33.9 for labourers (i.e. unskilled workers). The HIV prevalence for the age cohort 35-49 years, has been found to be significantly higher than the other age cohorts, congruent with national HIV prevalence for males.

In the Markinor and the BMR research conducted in 2007 on data collected from 2002 onwards, HIV prevalence estimates was calculated among specific sub-groups using the Spectrum model (Ellis & Terwin, 2007). It was estimated that the HIV prevalence rates among employees that were skilled, employed and more affluent were higher than initially anticipated. Growing evidence suggests that HIV prevalence amongst the highly skilled and skilled South African work force poses a substantial threat, not to be underestimated.

Increased costs related to HIV and AIDS

The costs related to employee turnover, training and recruitment has been more severe for the mining, manufacturing and transport sectors than for the other sectors investigated by the SABCOHA 2005 survey (Ellis & Terwin, 2005). It was reported that about 23% to 26% of the mines and transport, manufacturing, building and construction companies surveyed, indicated that they would probably

Table 5

Adjusted HIV-prevalence rates for the public, parastatals and private sectors (adapted from Colvin et al., 2007, p.S16)

| Sector | Organisation | HIV prevalence % | Final adjusted HIV prevalence%* |
|---------------------|--------------------------------|------------------|---------------------------------|
| Public | E. Cape Municipality | 6.0 | 7.1 |
| | Gauteng local Gov. department | 13.4 | 9.7 |
| | Northern Province municipality | 10.1 | 14.3 |
| Utility/parastatals | National parastatal | 6.6 | 7.4 |
| | National utility | 8.5 | 13.4 |
| | National utility | 10.8 | 14.1 |
| | National parastatal | 10.9 | 15.7 |
| | National transport parastatal | 16.3 | 24.3 |
| Private | Light manufacturing | 4.3 | 4.9 |
| | Light manufacturing | 10.3 | 7.0 |
| | Light manufacturing | 1.9 | 9.0 |
| | Food distribution warehouse | 7.9 | 9.0 |
| | Heavy engineering | 6.0 | 10.6 |
| | Contract cleaning companies | 31.3 | 10.9 |
| | Pharmaceutical company | 7.5 | 11.9 |
| | IT company | 6.3 | 14.6 |
| | Light manufacturing | 21.0 | 15.2 |
| | Light manufacturing | 18.2 | 17.0 |
| | Chemical company | 15.9 | 18.3 |
| | National agricultural company | 13.8 | 18.6 |
| | Heavy engineering | 8.3 | 20.0 |

*HIV prevalence adjusted to combined population using age (3groups), sex and race (Black and other) using an adjustment factor for temporal and geographical trend

appoint more employees to counteract for the negative impact of HIV and AIDS on labour productivity, absenteeism and mortality. Increased mechanisation through higher investment in machinery and equipment to reduce labour dependence, was a strategy reported by manufacturers (22%) and to a lesser degree by the mines (19%) surveyed.

The economic impact of HIV and AIDS was assessed by Rosen and colleagues (2007) on 14 large companies (between 1999 and 2005) and on SMEs using five surveys of SMEs in various industrial sectors in South Africa, Zambia and Kenya. For the study among large organisations, AIDS related costs were calculated “by combined

retrospective data on employee demographic characteristics, absenteeism, productivity and medical care costs with unit cost information obtained from employment contracts, benefits policies and financial stakeholders and from interviews with managers” (p. S42). The AIDS related mortality in the workforce was estimated and the nominal cost per death was then multiplied by the “estimated number of deaths in the year of the study, to obtain the aggregate costs of all AIDS related losses per year” (ibid, p. S42). For most companies, the costs were calculated before the general access to antiretroviral therapy (ART). With regards to the estimated cost of losing an employee due to AIDS, calculated as the percentage of annual labour costs or “AIDS tax” (in the absence of effective treatment), the cost was estimated to be 1.1% in a large South African manufacturing company. For most of the other companies AIDS seems to be increasing the cost of labour between 1-2% and seemed not to exceed 3% for any of the companies studied (Rosen et al., 2007).

Organisations in the manufacturing industry were reported to experience a small to moderate negative impact on their overall company effectiveness and competitiveness as a result of HIV and AIDS (Van Zyl & Lubisi, 2009). In this study, the HIV prevalence among employees was negatively associated with company labour and production costs. In support of findings previously mentioned, the employees, irrespective of skills and education levels, were similarly affected by HIV and AIDS.

In a research study among 100 component manufacturing companies in the Eastern Cape, Gauteng, KwaZulu-Natal, the North West and Western Cape, HIV and AIDS were not considered by most companies to negatively influence their effectiveness at the time of the survey (Camagu, 2009). However, 28% anticipate that HIV and AIDS may pose a threat within five years. This finding is however not surprising as the majority organisations have not accessed the impact of HIV and AIDS on their labour and production costs. It was further argued that the limited information available to companies about HIV prevalence and the fact that the costs are likely to be incurred only in future, make it difficult for companies to act in this regard.

In Table 6 and Table 7 below, the impact of HIV and AIDS on **small and medium-sized enterprises** (SMEs) in South Africa can be viewed as adapted from Vass and Phakhati (2006) and Rosen et al. (2007).

Table 6

HCT uptake, HIV prevalence and Perceived HIV impact on SMEs (adapted from Vass & Phakhati, 2006)

| Workforce characteristics | | | | | |
|--|--|---------------------|---------------------------|-------------------|------------------------------------|
| Skills level | No. Permanent employees by Male(Female) | % HCT uptake | % HIV+ (year) | HIV impact | Perceived Future HIV impact |
| Autolive SA (Pty) Ltd. (Medium size company) | | | | | |
| Total | | 82-96% | 4.69 (2004) ^a | Low | Low |
| Highly skilled | 15(2) | | | | |
| Skilled | 19 (1) | | | | |
| Semi-Skilled | 15(94) | | | | |
| Unskilled | 0(0) | | | | |
| Osborn Engineered Products SA (Pty) Ltd (Medium size company) | | | | | |
| Manufactures heavy equipment for mining and construction industries | | | | | |
| Total | | 33% | 8 (2003/4) | Low | Medium |
| Highly skilled | 35 (5) | | | | |
| Skilled | 83(22) | | | | X |
| Semi-skilled | 29 (0) | | | | |
| Unskilled | 16(1) | | | | |
| Secoroc (Pty) Ltd (Medium size company) Produces Drilling equipment for the mining industry | | | | | |
| Total | 113(37) ^c | 90% | 14.4 (2003) | Low | Low |
| Highly skilled | | | | | |
| Skilled | | | | | |
| Semi-skilled | | | | | |
| Unskilled | | | | | |
| Inergy Automotive System (Small company) Automotive component manufacturing sector | | | | | |
| Total | 57(7) | 68.8% | 18.2(2004) | Low | n.a. ^b |
| Highly skilled | 10(1) | | | | |
| Skilled | 10(1) | | | | |
| Semi-skilled | 37(3) | | | | |
| Unskilled | 0(2) | | | | |

^a Age distribution shows a larger proportion of female employees in older age cohorts i.e. >40years

^b Not reported

^c Workforce by skills level not clear

The investigation into the management of HIV and AIDS by SMEs conducted by Vass and Phakathi (2006) illustrated the diverse HIV prevalence rates among SMEs. With

regards to the research of Rosen et al. (2007), only two surveys conducted among various industrial sectors in South Africa are depicted. From both these research studies it can be learned that SMEs perceive to be only marginally affected by the AIDS epidemic.

Table 7

Impact of AIDS on Small and Medium-Sized Companies in the Industrial Sectors (Adapted from Rosen et al., 2007, p. S45)

| South African Company Characteristics | Survey 1 | Survey 2 |
|---|-----------------------------------|-----------------|
| Sector or Location | 2 Provinces & Multiple sectors | Industrial |
| Sample size (companies) | 80 | 34 |
| Workforce Characteristics | | |
| Median workforce size | 48 | 53 |
| Estimated HIV prevalence (combined workforce) | 13.7% | 9.8% |
| Unskilled workers as % of combined workforce | 31% | 31% |
| Employee attrition (turnover) | | |
| Total average attrition (resignation, dismissal, retirement, death, etc.) | 13% | 9.3% |
| Average annual attrition due to ill health or death | 10.4% | 10.1% |
| Manager's perception of current HIV impact | | |
| None or little | n.a.* | 85% |
| Moderate | n.a.* | 15% |
| Severe | n.a.* | 0 |

* Not investigated in this survey

Increased costs related to medical schemes and pension benefits

Escalated costs related to employee benefits i.e. group life insurance, pension, funeral benefits and medical aids has been a challenge for South African business. It is only as recent as 2006 that the medical aids have moved away from limiting coverage for people infected with HIV. Discovery Health (<http://www.discovery.co.za>) views HIV and AIDS as chronic and HIV tests are classified as basic tests. The increased employee benefit costs related to HIV and AIDS appears to be more severe for the financial services sector followed by the transport, mining and manufacturing sectors as reported in the 2005 SABCOHA survey (Ellis & Terwin, 2005).

2.3.3 External impacts of HIV and AIDS on organisation competitiveness

An important aspect related to the impact of HIV and AIDS, discussed by Bowler (2004), relate to money lost due to credit that has been granted to customers who are unable to pay it back either through illness or even death. Furthermore, a reduction in clientele might also reduce general sales, especially in the retail sector. Stein (2001) argued earlier that this impact could be further aggravated by shrinking disposable income due to greater expenditure in health and possible funeral costs. Thus a change in household spending patterns could have a negative impact on particularly the consumer goods sector.

In the automotive component manufacturing sector, investment decisions were reported to be influenced by HIV and AIDS related factors (Camagu, 2009). Against the world wide economic recession, relatively high interest rates, high costs of petrol and food, South African consumers are struggling to meet their competing priorities of basic needs, health and other costs.

In the next section, business' response to HIV and AIDS, with specific focus on the manufacturing and engineering sector's response to HIV and AIDS, is addressed.

2.4 Business' response to HIV and AIDS

HIV prevention and AIDS treatment and support have been placed on the agendas of Governments, the World Economic Forum, the Global Coalition on HIV/AIDS and the International Labour Organisation (ILO). The ILO has argued that the right to work and continued employment for PLWA need to be supported and respected and therefore calls on its tripartite constituents (government, employers' and workers' organizations) to support and facilitate the establishment of a new HIV and AIDS international labour standard for the work context. With the cooperation of trade unions and employers these standards are to reinforce the principles of the Code of Practice, especially in relation to stigma and discrimination and in facilitating the achievement of "Universal Access to prevention, treatment, care and support". The adoption of this human rights instrument has occurred during the International Labour Conference in June 2010 (Retrieved from <http://www.ilo.org/ilc/ILCSessions/99thSession/lang--en/index.htm>).

The responses of both the private and public sector to HIV and AIDS in the South African workplace, is influenced by international guidelines, ethical principles and the national legislative framework i.e. Bill of Rights in the South African Constitution, (Act 108 of 1996) and the Labour Relations Act 66 of 1995; the Occupational Health and Safety Act 85 of 1993 etc. The rationale for the involvement of the private sector in HIV and AIDS is predominantly to manage the negative consequence of HIV and AIDS on the macroeconomic stability of the country and the region (Coates et al., 2007). As the outcomes of the HIV and

AIDS epidemic manifests in declined productivity and organisation competitiveness, the linkage of business success to the health of its employees will become more apparent than ever before. In this regard efforts should be directed at the reduction of direct costs due to HIV and AIDS by efforts to decrease morbidity and mortality to limit its impact on productivity and worker retention askey strategies to maintain business“ competitiveness, quality of services and products. Furthermore, the responsibility of business within the context of good corporate citizenship requires the consideration of financial, social and environmental performance (Coates et al., 2007).

The role of the private sector in working towards accountability, equity and leadership in the management of HIV and AIDS has been highlighted during a “think tank” meeting in Durban, South Africa in June 2006 (Coats et al., 2007). Corporate and business actions regarding HIV and AIDS can involve a range of initiatives as suggested by Coats et al. (2007) such as:

- the approval of workplace policies and recommendations,
- offering HCT in the workplace and in surrounding communities as well as support ART initiatives within workplaces and beyond
- the identification and understanding of the various barriers and facilitating factors related to HIV and AIDS prevention and care,
- engaging in efforts to bringing about structural changes to enhance health outcomes,
- advocating and supporting business to adopt workplace policies and programmes,

- engaging in acts of kindness to support community outreach activities i.e. financial and human resource support to initiate programmes and research but also to develop the necessary infrastructure i.e. buildings to enable programme delivery etc.
- supporting government programmes through the initiation of supportive interventions that some funders are unwilling to support.

The South African Business Coalition on HIV and AIDS (SABCOHA, 2012) is committed to provide leadership in overcoming the epidemic and to play a major role in the initiation of new and co-ordinated HIV and AIDS prevention and treatment strategies. Companies are able to have a significant impact on both morbidity and mortality of employees and their families through HIV and AIDS related education, HCT and ART as well as treatment of TB and motivating for male circumcision, an HIV prevention strategy that received little attention thus far. The economic costs related to these initiatives have been argued to be counteracted by the benefits i.e. reduction in absenteeism and mortality with related recruitment and re-training costs. The ILO Report of 2004 noted: "An increasing number of companies are demonstrating that the heaviest cost associated with HIV/AIDS is the cost of inaction," and stresses "that there is still widespread under-investment in work place programmes" (p.19).

While there are still many companies in South Africa who fail to take cognizance of the magnitude of HIV and its possible impacts of their workforces, many have heeded the call and have implemented policies and comprehensive programmes aimed at mitigating this impact. The SABCOHA survey (Ellis & Terwin, 2005) reported that the sectors more profoundly affected by HIV and AIDS, have also the most mature programmes and many are integrated into broader wellness company programmes. It was mentioned that the financial services, mining, transport and manufacturing sectors seem to be addressing the epidemic in an integrated and proactive manner.

The response of the private sector to HIV and AIDS is presented in terms of policies and prevention and testing initiatives, and ART provision in the workplace

2.4.1 HIV and AIDS workplace policies, prevention, HCT and ART

In this section the specific HIV and AIDS related responses of organisations pertaining to the HIV and AIDS workplace policies, prevention activities i.e. education and HCT as well as support and care initiative such as ART access.

Policies

The results from the 2005 SABCOHA survey (Ellis & Terwin, 2005) showed that financial service organisations were more likely to have a HIV policy in place (81%), followed by mining (60%) and manufacturing and transport companies (50%). Larger companies more so than smaller ones, reported to have communicated their HIV policy to employees and to have implement HIV and AIDS awareness programmes. A survey conducted by the Bureau for Economic Research (BER, 2004) reported that among small companies (with less than 100 employees), only 13% have a HIV and AIDS policy and 29% an HIV and AIDS education programme. This is in stark contrast to companies with more than 500 employees where 92% had a policy in place and 94% an awareness programme.

HIV and AIDS awareness programmes, HIV Counselling and Testing initiatives

AIDS education programmes in the workplace are generally based on peer education where selected individuals in the organization are trained as peer educators who assist in AIDS awareness within the workplace. It has been reported in the findings of the 2005 SABCOHA survey (Ellis & Terwin, 2005) that larger companies were more likely to have implemented HIV and AIDS awareness programmes together with interventions to encourage and support HCT. A significant number of companies were found to have implemented HIV and AIDS awareness programmes.

HIV Counselling and Testing (HCT) has been advocated as a significant HIV and AIDS prevention strategy as it has been argued that once people know their HIV status, they would be more willing to engage in prevention strategies and seek timely support and treatment (Abdool Karim, Meyer-Weitz et al., 2009; SANAC, 2010). The initiative is motivated to assist uninfected individual to maintain their HIV status as it has been found that people who have knowledge of their serostatus is more willing to engage in protected sex to protect themselves and their partner(s) from HIV infection (Coates, Richter and Caceres, 2008).

The NDoH strongly supports HCT programmes as a general HIV prevention strategy, in managing mother to child transmission (PMTCT), as well as to foster timely access to antiretroviral treatment. HCT consists of three steps with the first being initial counseling to facilitate informed decision making about HIV testing, followed by the HIV test and then lastly, post-test counselling to address the outcomes of the test. The two basic approaches to HCT adopted in workplaces are the provider-initiated opt-out approach or the opt-in model. The first approach is used by companies who have either an occupational nurse and or clinical facilities during which HCT is offered to all employees when compulsory regular health screenings are conducted. Employees then have the option to test or not. The most popular model, the opt-in model is used when HCT is offered as a major company event.

The discussions generated by these processes and models, with the accompanying information sharing, provides opportunities to address issues related to AIDS-stigma and discrimination in attempts to reduce it (Abdool Karim, Meyer-Weitz et al., 2009). While an increase in HCT uptake among the South African population from 18.9% (in the 2005 survey) to 30.3% was reported in the HSRC survey of 2008 (Shisana et al., 2009), the number of people seeking HCT is disappointing especially in light of the mass media awareness interventions and wide scale access to HCT.

It was found in the SABCOHA survey (Ellis & Terwin, 2005), that companies who had implemented HIV and AIDS awareness programmes, were also more likely to have workplace HCT initiatives as well as care, support and treatment programmes in place. In the study of Connelly and Rosen (2006) among 52 South African companies, about 50% of companies were reported to offer HCT of which the majority was in the mining and financial services.

Leading examples of well implemented HIV and AIDS intervention have been established by various car manufacturers such as Mercedes-Benz South Africa (MBSA), BMW, Daimler Chrysler and Toyota. The commitment to address HIV and AIDS is evident in that HIV and AIDS prevention has been integrated by various companies into a comprehensive corporate wellness and people development strategy and include testing, support and treatment to employees and in some cases to partner(s). MBSA first

introduced its HIV and AIDS workplace programme in 1991, directed at comprehensive management of the various challenges posed by HIV to the company, its employees, their families, and with consideration of its broader impact on economic and social development. BMW contributed their success in motivating 89% of its employees to seek HCT and the reduction of both STI and TB treatments from 15.6% to 7% within two years to their comprehensive and tailored HIV and AIDS programme (World Economic Forum, 2002-2003).

However, not all the companies in the automotive manufacturing sector have the same success. In a survey conducted by AIDC in 2010, only 39% of the 100 companies surveyed had HCT programmes in their organization. Only about half of these companies were able to encourage fewer than 45% to seek HCT services (Camagu, 2009). A low workplace uptake of HCT in the workplace was also reported in the study of Connelly and Rosen (2006). However, in the workplace HCT study of a mining company Bhagwanjee et al. (2008) found a high uptake of HCT facilitated by the convenience of a work-site HCT campaign and rapid HIV testing procedures. This is in support of a previous report on a randomized controlled trial to determine the effectiveness of workplace HIV counselling and testing in Zimbabwe. This trial concluded that on-site HCT uptake is effective when linked to basic HIV care at the workplace, as access and convenience seemed essential for the readily uptake of HCT (Corbett et al., 2006; 2007). While Ellis and Terwin (2005) advocate for compulsory workplace HCT to increase uptake, success in this regard has been reported by short, intensive „know your status“ campaigns led by senior management.

Barriers to HCT uptake in the workplace has been found to be perceived violations of confidentiality of health care workers in workplace clinics, uncertainties around the HIV basis of HCT services, the group nature of HCT workplace initiatives (colleagues might detect test results due to psychological reactions when testing positive) as well as fear of discrimination or stigmatization when testing HIV positive (Bhagwanjee et al., 2008).

While **male circumcision** has been linked to compelling evidence in reduced risk of HIV infection (Auvert et al., 2005; Bailey et al., 2007), few organisations seemed to have embarked on a strategy to integrate circumcision into HIV and reproductive health education and to motivate their labour force to consider male circumcision in reducing

their risk for HIV infection. This approach is however not without challenges as the formal health care service system would need to be able to accommodate requests for circumcision and message framing would have to be done with care as not to stigmatise men as vectors of infection while some question the existing evidence in this regard (Sawires et al., 2007).

Antiretroviral treatment (ART) provision in the workplace

The role of AIDS activists and in particular the Treatment Action Campaign (Robins, 2004) should be acknowledged in motivating for broad access to ART in both the public and business sectors. The NDoH's widespread HCT campaign is partly motivated by the need for people timely access antiretroviral treatment. The South African ART programme is viewed to be the largest in the world (WHO, 2007). In support of the NDoH's initiative, the private sector's social responsibility towards the HIV and AIDS epidemic and its response to its likely impact on the business sector, provide a strong impetus for workplace ART programmes. It has however been argued by Rosen et al. (2004) and Vass (2005) that private sector responses are primarily directed at cost-reduction and cost-avoidance, i.e. the reduction of employee medical and retirement benefits.

Actuaries have estimated the cost of a treatment programme over a seven year period, assuming drugs were available for free, suggesting that costs would be reduced from an estimated 13.8% of total payroll, to 9%. Should this saving be combined with the present value of expected savings an HIV/AIDS treatment programme, one could easily witness 15,3% of payroll in direct savings from insurance benefits, plus an indirect saving of 11.1% of payroll for factors such as reduced absenteeism, training costs and improved productivity (Richardson, 2003).

In an investigation of business sector responses to HIV and AIDS in Africa by Rosen et al. (2007), it was concluded that for many large companies, the provision of ART to employees was seen as a worthwhile investment. However, small and even medium sized companies had restricted human and financial capacity to respond to illness and have seemingly little concern (see below for further discussion).

With regards to the provision of ART at the workplace, 38% of financial services companies and 26% of the mines surveyed by SABCOHA, 2005 (Ellis & Terwin, 2005) indicated that they provide anti-retroviral therapy in the workplace. Not only are some of these companies focusing on their workforce, but many have extended their activities into the communities surrounding their location. Connelly and Rosen (2006) found that 75% of the 52 companies in their study ensured ART access to their employees.

A poor and slow response among small and medium size enterprises have been noted generally (Ellis & Terwin, 2005). However the proactive strategy by ESKOM, Volkswagen and Daimler Chrysler to support the development of HIV and AIDS programmes in their supply chain, augers well for the future response of small and medium size enterprises to HIV and AIDS. Some have even made HIV workplace programmes a procurement requirement (Ellis & Terwin, 2005).

It can be argued that thus far, Small, Medium and Micro-Enterprises (SMEs) in South Africa have been reported to be ill equipped to deal with HIV and AIDS in their organizations and have not sufficiently addressed issues related to HIV prevention and AIDS support and treatment to lessen its impact (Fraser, Grant, Mwanza & Naidoo, 2002; Ellis, 2006; Ellis & Terwin, 2005, 2005; Vass & Phakathi, 2006). In the work of Fraser et al. (2002) among 120 SME, the impact of HIV and AIDS was not ranked a priority, despite the fact that the organizations experienced a loss of productivity and other indirect costs due to illness and absenteeism. In small organizations absenteeism is a critical factor in productivity as a relatively small workforce are unable to absorb its impact. Furthermore, these organizations experience various challenges in the implementation and evaluation of HIV and AIDS initiatives as they often do not have financial and human resources and in particular a Human Resources Department with the required expertise and responsibilities to implement and evaluate prevention and treatment programmes. Connelly and Rosen (2006) reported that SME have a low willingness to pay for HIV and AIDS interventions, lack adequate and up to date HIV and AIDS related information, are plagued with AIDS stigma and are not compelled to act in this regard. Most of the activities tend to be once off, informal attempts at creating awareness and HIV/AIDS education and not a comprehensive approach to extend information initiatives with HCT and the facilitation of access to ART. Few companies reported to have workplace policies in place to ensure the protection of employees from

discrimination and to protect their rights related to confidentiality. However, the main constraints for SMEs to deal with the impact of HIV/AIDS as reported by various authors seem to be i) the reluctance of management to offer any time to activities apart from those related to operational issues, ii) a scarcity of information and skills to address HIV and AIDS and related aspects and iii) limited financial resources to either address it within the company or to outsource the necessary assistance (Connelly & Rosen, 2005; Rosen & Simon, 2003; Rosen et al., 2007; Ellis, 2006; Ellis & Terwin, 2005; Vass & Phakathi, 2006). There seemed also to be a general lack of urgency for action in response to HIV and AIDS. It was therefore argued that the challenges for government and the business sector is to find means to reach out to SMEs and to seek the latest cost-effective methodologies for developing workplace programmes for SMEs specifically and to disseminate those to SMEs. These initiatives are also strongly supported by the Global Health initiatives (Boldrini & Trimble, n.d.). Efforts to reach out to SMEs in the automotive sector have been initiated by SABCOHA (2012) and development agencies like InWent, to assist in capacity building and programme implementation.

It should however be noted that the implementation of ART programmes are complex and pose various challenges (Connelly & Rosen, 2005; Cornell et al., 2010). These include the existing medical aid benefits that are provided and specifically whether the coverage is sufficient, the regular supply and provision of drugs, the extension of treatment to spouses and dependants of employees and the compliance with drug treatments as well as the retention of clients in ART programmes. The success of rolling out ART to infected employees hinges on, amongst others, a company's ability to sustain the initiative into the foreseeable future. This implies that when a company makes the decision to offer treatment, a commitment should be made to deliver this programme in the long term. Companies who are providing ART to infected employees are confronted with low uptake of HCT and are critically aware that low uptake equates programme failure and more importantly, wasted money. Furthermore, this results in a relatively small numbers of infected employees who receive treatment. Furthermore, other issues of concern are related to the confidentiality of the clients in the programme. AIDS stigma was reported to impede the effectiveness of their HIV and AIDS programmes among companies irrespective size and in most of the sectors (Ellis & Terwin, 2005). Despite the financial investment in HIV and AIDS workplace education,

HCT and treatment interventions, many companies are not experiencing the anticipated financial benefits from their HIV and AIDS workplace programmes (George, 2006).

It should be noted that ART should not be seen in isolation from other related health services namely the treatment of other sexually transmitted infections (STIs), opportunistic infections (especially TB), counselling support, ARVs, home-based and palliative care. However, not all organisations have the resources for workplace clinics and may offer services through partnerships with health care providers in public or private sectors.

It is commendable that many organisations are responding to the epidemic through the implementation of peer education HIV and AIDS interventions, HCT and even ART interventions as well as the integration of HIV and AIDS into a comprehensive wellness programme. However, a paucity of evidence exists regarding the effectiveness and efficacy of HIV and AIDS workplace prevention and treatment interventions generally (Whelan, Dickinson, & Murray, 2008). George (2006) argues that the lack of available data for comparative analysis in this regard is due to the confidential nature of these services and the reluctance to share widely the company's full burden of disease because of possible negative consequences for the company (investors, board, management) including employees (morale, discrimination, stigmatisation etc.). Apart from a general lack of information regarding effective workplaces programmes (Mahajan, Colvin, Rudatsikira & Ettl, 2007; Rosen et al., 2007) little information is available regarding the integration of HIV and AIDS into comprehensive wellness programmes.

Efficacy studies in this regard will not only benefit the specific organisations, but will assist other organisations in making important and cost saving decisions regarding best evidence HIV and AIDS education and treatment workplace interventions. However, a 22 company study in Harare, Zimbabwe investigated the extent to which these interventions have been successful in reducing HIV transmission significantly (Corbett et al., 2007). It is however likely that many organisations do conduct their own in-house surveys e.g. knowledge, attitude, beliefs and practice (KABP) studies and since it is not published, the lessons learned and thus useful knowledge, is lost to other organisation and stakeholders.

A better understanding is however required regarding an integrated HIV and AIDS programme within a broader wellness programme as understandings portrayed by government documents (Department of Labour, 2000a; 200b) and researchers in the field of workplace HIV and AIDS programmes seem to conceptualise this as care programmes for HIV positive employees (Janse van Rensburg, 2007; George & Whiteside, 2002). This view seems to differ substantially with concepts of Workplace Wellness and Health Promoting Workplaces by the WHO and the international literature. There is a paucity of information regarding workplace wellness in the South African context.

2.5 Workplace Wellness Programmes

The well-being of employees, an organisation's most important resource, is a key factor in determining organisations' long-term effectiveness (WHO, 2009). Research studies show a positive relationship between health and well-being and productivity levels as well as job satisfaction (Aldana, Merrill, Price, Hardy & Hager, 2005; Bloom & Canning, 2005; Shephard, 2000). The cost effectiveness of workplace wellness programmes are particularly enhanced when both physical and psycho-social factors are addressed (Cancelliere, Cassidy, Ammendolia, & Côté, 2011; Kuoppala, Lamminpää, & Husman 2008).

The International Labour Organisation (2009, June 15) view wellness in the workplace, to refer to all different aspects of the working life, quality and safety of the physical environment, workers' feelings about their work, the working environment, climate at work and of the organisation and health status of workers. Furthermore, workplace well-being compliments and extends occupational health and safety issues and facilitates a safe and healthy workforce as well as workplace happiness and engagement. In addition, emphasis is placed on particular issues i.e. HIV/AIDS, substance use, stress and violence (ILO, 2009, June 15).

A general paradigm shift is advocated from a labour approach in occupational health and safety to a more public health approach to health and wellbeing (See Figure 2), an approach also supported by the WHO (2010) as discussed in the next section. The narrow focus on health and safety aspects in the workplace is extended to a more systemic approach to health and wellbeing with consideration of not only the biological

and psychosocial determinants of health but also the broader contextual and cultural aspects. A partnership approach is advocated in which mutual responsibility exists for health, safety and wellbeing in the workplace.

| Labour approach to Occupational Health and Safety | | Public Health – Wellness approach |
|---|---|---|
| Action at Workplace | → | Action to include employees' families and communities |
| Work-related health and safety issues only | → | Include all health and safety determinants |
| Work under labour contract | | Include all workers (self-employed, informal workers etc.) |
| Employers' responsibility | | All stakeholders' responsible (insurance, health & environment, governments/authorities etc.) |
| Negotiation between workers and employers | | Promotion of health and wellbeing is non-negotiable |

Figure 2. Paradigm shift pertaining to health and well-being in the workplace (Adapted from ILO, 2009)

Wellness workplace programmes utilise health promotion principles and strategies directed at the organisation's internal and external environments; the promotion of healthy lifestyles to enable employees to increase control of the personal and contextual determinants of health, facilitating supportive environments for health as well as by addressing non-occupational issues i.e. family welfare, home and community factors viewed as important factors impacting on health and well-being. Advocacy for health and participatory processes of stakeholder involvement, are viewed important strategies to facilitate health and well-being. See Figure 3 for a holistic framework for health action in the workplace as developed by the WHO (Neira, 2009). Adequate evidence exists for the health enhancing effects and cost-effectiveness of organization wellness programmes (Aldana et al., 2004; Shephard, 2000). Well-being in an organization is fostered by health promoting initiatives. It should be noted that the benefits to corporate bottom lines derived from WWP i.e. reduction in health care costs, absenteeism and employment related costs, are important but should not be the sole basis for health promotion programme implementation (Green & Kreuter, 1999). The focus on

employee health and well-being because of the value placed on the organisation's human resources, should not be underestimated. Attention to conditions other than HIV and AIDS has increasingly been found to impact on the South African population's health and well-being. However, very few studies address these conditions within the South African work context. Through WWP opportunities are created to address pressing health related issues for both employees and organisations such as HIV and AIDS, tuberculosis, substance use, stress as well as attention to specific health conditions i.e. diabetes, cardiovascular diseases, obesity etc. The dynamic inter-relationship between various health conditions with HIV and AIDS speaks to the need for the integration of HIV and AIDS into more holistic health promotion workplace programmes. A brief overview is provided of health influencing conditions likely to impact on the employee health and well-being.

HIV infection is the strongest risk factor for **tuberculosis** (TB) and is responsible for its dramatic increase globally. South Africa is considered to have the worst TB epidemic in the world confounded by increasing drug resistance and its co morbidity with HIV (Abdool Karim, Churchyard, Abdool Karim & Lawn, 2009). HIV infection is the strongest risk factor for TB and is responsible for its dramatic increase globally. In 2010 an estimated 1.1 million cases of tuberculosis were reported among the 34 million PLWA worldwide with 900 000 if these among the 22.9 million of African PLWA (Harries et al., 2010; UNAIDS, 2011).

The ineffectiveness of public health programmes specifically in detecting TB cases has been a global concern especially within developing countries and the effective delivery of directly observed treatment (DOT), the internationally supported control strategy for TB is urgent. Despite the urgency for successful interventions, South Africa has not been able to successfully implement the Strategic Plan for Tuberculosis (ibid). However, it has been strongly argued by Suthar et al., (2012) that earlier initiation of ART is critical for the prevention of tuberculosis among adults with HIV and therefore may be an important global and national strategy to manage the concomitant HIV and TB epidemics.

In the quest to deliver on the global tuberculosis-related Millennium Development Goals to decrease the incidence of TB significantly by 2015, various provision and financing

models were considered for developing countries (Sinanovic & Kumaranayake, 2006a, 2006b; Floyd et al., 2006). The HIV epidemic has resulted in a significant increase in the demand for TB services since 1999 (Floyd, Reid, Wilkinson & Gilks, 1999), and continue to challenge the capacity of the public health sector in TB service delivery (Sinanovic & Kumaranayake, 2010). Evidence exist for the cost-effectiveness of various models of public private partnerships (PPP) in the provision of TB treatment in South Africa with a strong emphasis on public-private workplace (PWP) as this was found not only to reduce costs for the patient but also for the workplace and government (Sinanovic & Kumaranayake, 2006a, 2006b). The establishment of PWP are more sustainable than partnerships with NGOs as employers have strong economic and social responsibility reasons for ensuring a healthy workforce (Sinanovic & Kumaranayake, 2006a, 2010).

With regards to the delivery of quality of care, PWP sites were found by Sinanovic and Kamaranayake (2006c) to deliver the highest quality of care in terms of structure, process and outcomes. The capacity of the private sector to monitor the quality of care provided to their workforce seems critical in treatment completion (Ntshanga & Mabaso, 2009). Apart from mining companies, Mercedes Benz has started projects to support workplace DOT (Sinanovic & Kumaranayake, 2010).

People abusing **alcohol** are known to be at greater risk for HIV infection (Fisher, Bang & Kapiga, 2007) due to the likelihood of unprotected sexual activities. On the other hand **stress** is also known to have a positive and statistically significant impact on alcohol consumption and smoking intensity (Azagba & Sharaf, 2011), known risk factors for various chronic diseases (Azagba & Sharaf, 2011; Lucini, Solaro, Lesma, Gillet & Pagani, 2011). Chronic stress has been linked to a wide range of adverse health outcomes such as cardiovascular disease and related conditions (ibid; Chandola et al., 2008), anxiety, depression, hostility (Stansfeld & Candy, 2006) as well as back pain (Gunnar & Anderson, 1999) and unhealthy diets (Chandola, Brunner & Marmot, 2006). Good nutrition is particularly important for long-term health and survival of people living with HIV and has been associated with a better tolerance for antiretroviral drugs, an in maintaining weight and muscle mass as well as general feelings of well-being (Duran, Almeida, Segurado & Jaime, 2008).

The above discussion highlights the likely interaction between different lifestyle factors and health conditions emphasizing the need for more comprehensive health promoting workplace interventions. In the next section the theoretical framework that underpins a comprehensive response to health and well-being in the workplace, also utilized for the study, is presented.

2.6 Theoretical Framework of the study

The study draws from the holistic framework for health promotion in the workplace developed by the WHO (Neira, 2009). In terms of a response to HIV and AIDS it is expected that cognizance will be taken of various determinants of health and the dynamic interaction between various health risk factors through a range of interventions to “create a safe, healthy and supportive workplace, facilitate organizational and individual behaviour change and protect the general environment” (WHO, 1999, p.5). Wellness workplace programmes utilize health promotion principles and strategies directed at the individual employee and the organisation’s internal and external environments. This implies the promotion of healthy lifestyles by attempts to increase individuals’ control over personal and contextual determinants of health, with cognizance of organisation level influences i.e. the facilitation of supportive workplace environments for health as well as by addressing non-occupational health related issues i.e. family welfare, home and community factors viewed as important factors impacting on health and well-being. Advocacy for health and participatory processes of stakeholder involvement are viewed important strategies to facilitate health and well-being. See Figure 3 for a holistic framework for holistic health promotion in the workplace.

At the core of health promotion are the *values of social justice* to ensure equal access to workplace health promotion initiatives that is fostered by participatory processes and empowerment. Leadership initiatives for health promotion interventions need to be complemented by employee involvement through needs assessment and prioritization of health needs and concerns. These aspects are important as a caring workplace culture facilitates empowerment, skills development as well as participatory decision making impacting on health and well-being. A health promotion workplace should therefore offer a safe and supportive setting to seek HCT, ART and assistance for other health related aspects, as well as offer a context that will enable employees to work with HIV

infection free from fear of victimization and or stigma and discrimination. It is thus critical for organisations to understand the interrelatedness of various health conditions and its impact on not only production costs but also human suffering.

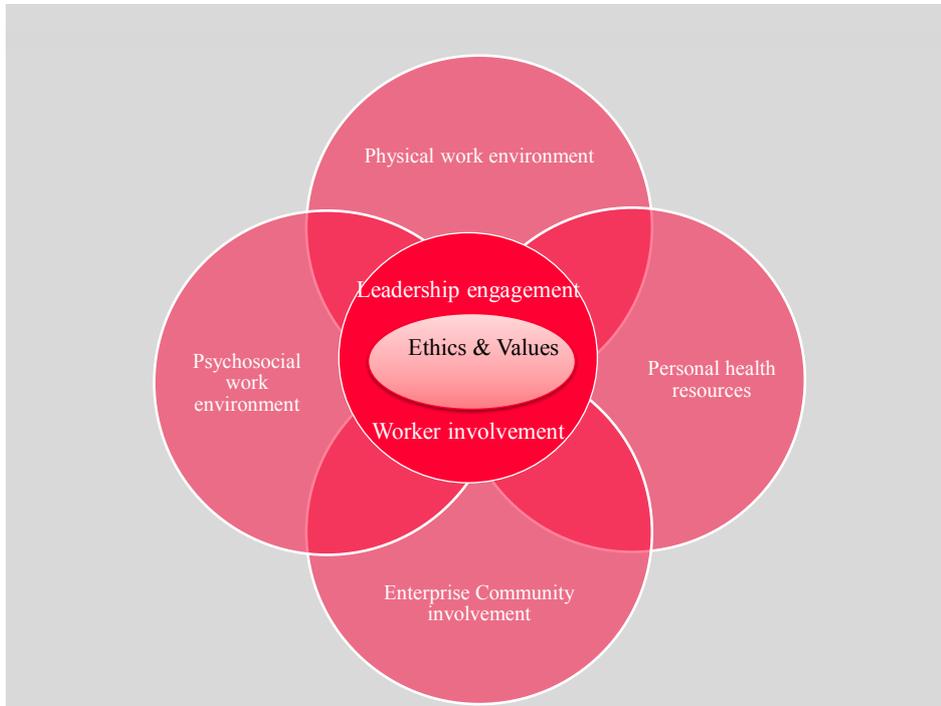


Figure 3: Holistic framework for health promotion in the workplace (adapted from WHO, 2009)

The *physical environment* refers to the culture of the organisation and how it is organized including management style and organizational structure. The physical environment of the organization includes aspects such as technology, buildings, materials, processes etc. The policies, programmes and initiatives within organisations are focused on carefully manage and minimize all kinds of risks and hazards in the work environment. Policies might include occupational health and safety, HIV and AIDS policies as well as other policies regulating health related aspects in the workplace. Resources for the implementation and sustainability of health promotion workplace programmes i.e. wellness programmes, HIV and AIDS programmes, as well as other health related initiatives are thus necessary in a health promoting workplace.

The *psychosocial work environment* refers to a safe environment free from bullying, harassment and discrimination e.g. no AIDS stigma and discrimination. Attention is given to the work-family balance as well as issues of fairness, reward and recognition to

individual and team contributions. As mentioned above, an organisational context in which social justice prevail is likely to provide a safe and supportive environment free from harassment and discrimination.

Personal health resources include knowledge and skills required to change or adapt to more health enhancing lifestyles and practices e.g. HIV and AIDS education, nutrition, stress management etc. A variety of health related interventions are thus required to address various health and well-being concerns of employees but also in recognition of the interaction between different risk factors i.e. alcohol abuse and unprotected sex that will increase vulnerability to STI and HIV. Skills development is another priority for workplace wellness so that health information can be translated into meaningful health enhancing behaviours i.e. condom communication and negotiation, correct use of condoms etc. Another essential component of a health promoting workplace is the facilitation of supportive environments for health e.g. the existence of policies to support health behaviours as mentioned above but also the required facilities and provisions e.g. the availability of condoms and access to STI and ART services etc. It is thus expected that cognizance will be taken of various determinants of health and the dynamic interaction between various health risk factors through a range of interventions to create a safe and supportive workplace for health and wellbeing.

The *enterprise–community environment* refers to the extension of health promotion interventions to families of employees (e.g. access to HIV and AIDS education, HCT and ART for partners) and the broader community (HIV and AIDS education interventions) as well as environmental responsible business practices e.g. reduction in fuel emissions, pollution etc.

In this study, only elements of the key elements of this comprehensive approach received attention, in particular leadership initiatives for health promotion, organisation policies, access to health promotion interventions including health education, monitoring, support and treatment.

2.7 Conclusion

In this chapter the literature overview spanned the prevalence rates of HIV and AIDS in South Africa, suggesting a serious threat to business and in particular the manufacturing and engineering sector through absenteeism, decreased productivity, rising production costs and higher employee turnover rates. However, a comprehensive understanding of workforce HIV and AIDS prevalence in the manufacturing and engineering sector is lacking as available data comes from relatively few and intensive case studies. HIV prevalence seems lower among managers in comparison with skilled and unskilled labour while lower HIV prevalence rates were associated with increasing education levels.

A comprehensive response includes an HIV and AIDS policy, prevention, and support and treatment interventions. Many organisations have implemented HIV and AIDS policies and comprehensive programmes. Sectors most profoundly affected have the most mature programmes integrated into broader wellness company initiatives. Larger companies were more likely to have communicated their HIV and AIDS policies to employees and implemented peer education awareness and HCT programmes than SMEs. Strong impetus exists for access to ART as treatment of HIV-positive employees is viewed as a good investment by larger organisations. SMMEs were found to have limited capacity to respond while some demonstrated little concern. Smaller companies are likely to respond effectively to HIV and AIDS should they consider it to pose a threat to their organisation.

The WHO's holistic framework for health promotion in the workplace provide the theoretical conceptualization for the study with cognizance of the comprehensive multi-level approach required to foster wellness in the workplace. In the next chapter, the methodology that was employed for the study is presented in terms of research design, sampling, the research instrument that was used as well as the analyses conducted in terms of the specific objectives of the study.

CHAPTER 3

Methodology

3.1 Introduction

In the first section, the research design will be described followed by the sampling method and procedures. The development and content of the research instruments will be discussed as well as the data collection and ethical procedures that were followed. Lastly the analyses that were conducted is explained in detail with consideration of the aim and objectives of the study.

3.2 Research Design

The study is located within a positivistic paradigm with emphasis on empiricism, objectivity and deductive reasoning. A cross sectional, electronic mail survey was conducted amongst companies from the automotive manufacturing sector in South Africa, between September 2010 and February 2011 as a survey was considered the most appropriate strategy to gain a quantitative understanding of companies' perceptions regarding the impact of HIV and AIDS and other health influencing factors on their production costs and specific health promotion interventions implemented in the workplace to address their health challenges.

In order to gain a deeper insight into the quantitative survey data, a small qualitative study using in-depth telephonic interviews were also conducted among a few selected companies in the Eastern Cape during February 2011.

3.3 Sampling

An updated AIDC database with 527 companies was used as the sampling frame for the stratified random sampling of companies for the study as this was considered a representative database for South Africa's automotive tier 1 companies. Table 1 reflects the geographical location of the automotive sector tier 1 company population in South Africa as per AIDC database. The percentage of tier one companies (527 in total) is essentially situated in Eastern Cape (52.2%), followed by Kwazulu Natal (20.5%), Gauteng (17.8%), Western Cape (9.3%) and North West, with only one company (0.2%). From this data base, 258 companies were selected through stratified random sampling with consideration of provincial distribution of companies. Forty companies

could not be contacted because of invalid telephone numbers and could not be located during an internet search; 20 companies indicated that they were not part of the automotive sector or that they were too small (2-3 employees) to add any value to the study and 31 companies declined to participate for various reasons. The realised sample comprised of 74 companies from a total of 167 companies who agreed to participate in the study. The national geographical distribution of the companies (Tier 1) on the data base and the participating companies are depicted in Table 8, reflecting a similar provincial distribution to the sampling frame. The qualitative study comprised 5 managers of randomly selected companies in the Eastern Cape who participated in the survey.

Table 8

Geographical distribution of automotive companies*

| PROVINCE | National distribution | | Realised sample | |
|---------------|-----------------------|------------|-----------------|------------|
| | N | % | n | % |
| Eastern Cape | 275 | 52.2 | 38 | 51 |
| Gauteng | 108 | 20.5 | 16 | 22 |
| Kwazulu Natal | 94 | 17.8 | 13 | 18 |
| Western Cape | 49 | 9.3 | 6 | 8 |
| North West | 1 | 0.2 | 1 | 1 |
| TOTAL | 527 | 100 | 74 | 100 |

*AIDC database

3.4 Research Instruments

The survey questionnaire and the qualitative interview schedule were developed by the researcher in collaboration with members of AIDC who funded the study. Consideration was given to the aims and objectives of the study. The survey questionnaire was directed at company representatives i.e. human resource managers or general managers. The first section of the questionnaire included an outline of the aims and objectives of the study and ethical aspects of the study i.e. the assurance of the confidentiality and anonymity of the data and that completion of the questionnaire imply informed consent to study participation. This section was followed by items requiring some company details i.e. company size, annual turnover, number of employees and skills level etc. In the third part, a specific set of questions were asked to evaluate the perceived impact of 10 selected negative health influencing factors (including HIV and AIDS) on their

company's production costs and to rank the selected health influencing factors in level of significance (10 = highest impact to 1 = lowest impact). The effectiveness of company responses in addressing the specific health influencing factors as well as perceptions regarding the automotive sector's response in addressing the economical impacts of the various health influencing factors were assessed. A 5-point Likert scale was used to measure the above perceptions. The questionnaire was tested in five companies to ensure appropriateness and clarity before distribution.

3.5 Data Collection

The companies' Human Resource Managers as identified from the AIDC database were contacted (telephonically or electronically) to request participation in the study. The organisations were informed of the purposive of the study, ensured of the voluntary nature of participation and the confidentiality of the information obtained. Furthermore it was made clear that the data could be published and that the data would be reported on a group level with due consideration of anonymity and confidentiality. Arrangements were made with each company as to the most convenient way to ensure access to the questionnaire either through fax or e-mail. Respondents were made aware that follow-up contact would be made through reminder calls to complete and return the questionnaire within 2 weeks after receiving it. In an attempt to improve the response rate, they were followed up at least three times by phone after which only 74 companies returned a completed questionnaire. The realised sample (n=74) was compared with the data base in terms of geographical distribution (See Table 1). Data collection occurred during the months of October and November 2010.

For the **qualitative study**, appointments were set with five key informants for the in-depth telephonic interviews after the survey had been completed to gain a better understanding of the survey data. The same ethical procedures were followed as above i.e. informed consent was sought, assurance was given regarding the voluntary participation in the study and the confidentiality and anonymity of the information.

3.6 Data Analyses

Data processing and analyses were conducted using SPSS 19 (Statistical Package for the Social Sciences). Frequencies were calculated for all the items followed by descriptive and central tendency exploration. With consideration of the results depicted by the

histograms, Normal Q-Q Plots and the Kolmogorov-Smirnov statistics of the different items that suggested violation of the assumption of normality as well as the ordinal nature of the items, a decision was taken to use non-parametric statistical tests for further analysis. Recoding was done to improve the response categories for analysis i.e. company size was coded as follows: Small = 8-49 employees; Small to Medium =50-199 employees, and Medium to Large = 200⁺ employees. Company ownership was coded: Multinational organisations = 1 and national/local ownership and others = 2.

Kruskall-Wallis tests, the non-parametric alternative to one-way-between-groups analysis of variance (ANOVA) were conducted to compare the scores on the health factors in terms of its influence on production costs, the extent to which this impact is monitored and the extent to which the organisation successfully manage its impact on production costs for small, medium and large enterprises. This test was also done to compare the ranked scores of the health factors perceived to have the highest to lowest impact on production costs for the different sized organisations. In addition, to compare the scores among these groups on the beliefs that a comprehensive workplace wellness programme will address the organisation's health challenges and that an HIV and AIDS workplace programme alone will address these challenges.

The Mann-Whitney U Tests were used to test for differences between two independent groups i.e. multinational versus national enterprises on the scores pertaining to the influence of the different health factors on the enterprises' production costs, the extent to which this impact is monitored and the extent to which the organisation successfully manage its impact on production costs. This test was also used to assess the differences between companies who have a WWP and not, in terms of the monitoring and the extent of success in the management of the health influencing factors on their production costs. The effect sizes were also calculated using Cohen's (1988) criteria of 0.1= small; 0.3=medium and 0.5=large effect.

Chi-square tests for independence were conducted to explore the association between health programmes in the workplace such as HIV and AIDS education, HCT, ART and WWP measured by Yes = 1 and No = 0) and organisation size and ownership description. The phi coefficient effect size statistic was used for 2 x 2 tables (small effect = 0.01, medium

effect = 0.03 and large effect = 0.05) while Cramer's V was used for larger tables (small effect = 0.01, medium effect = 0.03 and large effect = 0.05).

Pearson's correlation analysis was done to determine the association between views regarding the likely success of HAWP and WWP to successfully address organisations' health challenges.

The interviews of the qualitative study were transcribed and thematic analysis was conducted and integrated with the results of the survey to improve understandings of participants' views regarding the impact of health influencing factors on the organisation.

3.7 Conclusion

In this section the methodology followed for the study was presented reflecting the explanatory mixed methods design approach that was used. For the cross sectional internet based survey, the AIDC database was used to select 258 companies through stratified random sampling with consideration of the provincial distribution of companies. However from the 167 companies who agreed to participate, only 74 returned their questionnaires. The research instrument was developed to gain an understanding of organisations' perceived impact of HIV and AIDS on production costs in relation to other health influencing factors and to learn about the kind of health promotion initiatives implemented in the different workplaces. Due to the relatively skewed distributions, non-parametric statistical tests were conducted in terms of the aims and objectives of the study. The small qualitative study provided some in-depth information on the aspects investigated in the survey.

In the next chapter the results of the survey can be read and where relevant, supplemented with information gained from the qualitative study.

CHAPTER 4

Results

4.1 Introduction

In this chapter the results of the study is presented. The geographical location of companies and characteristics with regards to annual turnover, number of fulltime and part time employees and company ownership is firstly presented. This is followed by organisations' perceived impact of HIV and AIDS as well as other health influencing factors on their production costs and efforts towards managing these health factors. Thereafter the intervention responses of the companies is presented with regards to the HIV and AIDS epidemic (education interventions, HCT and access to ART) and their focus on other health conditions through more comprehensive health promotion activities. These are considered in terms of organisation characteristics i.e. size and ownership.

4.2 Company location and characteristics

Most of the questionnaires were completed by company managers (45%; n=33), followed by human resources managers (38%; n=28) and administrative staff (11%; n=7) while only a few company CEOs (5%; n=4) completed the questionnaires. This designation varied depending on the size, and the turnover of the company. Only 25% of companies were multinational while the rest were national organisations (see Table 9).

With regards to the Provincial distribution, the majority (51%) of companies in the research sample was from the Eastern Cape, followed by Gauteng (22%), Kwazulu-Natal (18%), Western Cape (8%) and North West Province (1%). The majority of companies that responded are located in Port Elizabeth (34%), followed by companies in Durban (14%) and East London (11%). More than 50% of the participating companies reported an annual turnover of more than R50 million (depicted in Table 10).

The majority of companies seem to be medium to large sized companies (43.3%) employing from 200 to 499 people fulltime, followed by the micro to small sized companies (56.7%) employing from 8 to 49 people (see Table 9).

Table 9
Company Descriptions

| Ownership | n | % |
|--------------------------------------|-----------|--------------|
| Multinational | 18 | 25 |
| National | 3 | 4 |
| Pty (Ltd.) | 29 | 40 |
| Closed Corporation | 16 | 22 |
| Privately owned | 7 | 10 |
| TOTAL | 73 | 100 |
| Number of Full-time Employees | | |
| Micro-Small (8 to 49) | 22 | 29.7 |
| Small to Medium (50 to 199) | 20 | 27.0 |
| Medium to Large (200 to 499) | 23 | 31.1 |
| Large (500 to 1300) | 9 | 12.2 |
| TOTAL | 74 | 100.0 |

Table 10
Annual turnover of participating companies by Province (N=70)

| TURNOVER | Eastern Cape | | Gauteng | | Western Cape | | Kwazulu Natal | | North West | | TOTAL | |
|------------------------|-----------------------|------------|----------------|------------|---------------------|------------|----------------------|------------|-------------------|------------|--------------|------------|
| | N | % | n | % | n | % | n | % | n | % | n | % |
| | Less than R 5 Million | 6 | 17.1 | 1 | 6.3 | 0 | 0 | 1 | 8.3 | 0 | 0 | 8 |
| R 5-10 Million | 3 | 8.6 | 2 | 12.5 | 1 | 16.7 | 2 | 16.7 | 0 | 0 | 8 | 11 |
| R 10-20 Million | 2 | 5.7 | 1 | 6.3 | 0 | 0 | 2 | 16.7 | 0 | 0 | 5 | 7 |
| R 20-50 Million | 5 | 14.3 | 2 | 12.5 | 2 | 33.3 | 0 | 0 | 0 | 0 | 9 | 12 |
| More than R 50 Million | 19 | 54.3 | 10 | 62.5 | 3 | 50.0 | 7 | 58.3 | 1 | 100 | 40 | 54 |
| TOTAL | 35 | 100 | 16 | 100 | 6 | 100 | 12 | 100 | 1 | 100 | 70 | 100 |

Number of skilled and unskilled employees.

In Table 11 the skills level of employees are depicted. Unskilled employees account for 21.5%, followed by semi-skilled (27.12%), skilled (26.7%) and highly skilled employees (25.10%). The employees of most organisations, irrespective of size are semi-skilled and skilled. Slightly more highly skilled employees are employed across all organisations than unskilled employees.

Table 11

Skills level of employees

| Organisations | Unskilled | Semi-skilled | Skilled | Highly Skilled |
|------------------------|------------------|------------------|------------------|------------------|
| | n (%) | n (%) | n (%) | n (%) |
| Small | 13 (25%) | 18 (26.9%) | 17 (25.8%) | 14 (22.6%) |
| Small to Medium | 13 (25%) | 19 (28.4%) | 19 (28.8%) | 19 (30.6%) |
| Medium to Large | 26 (50%) | 30 (44.8%) | 30 (45.5%) | 29 (46.8%) |
| Total | 52 (100%) | 67 (100%) | 66 (100%) | 62 (100%) |

4.3 Impact of health influencing factors on companies' production costs

About half of the organisations seem to perceive that most health factors have a small impact on their production costs (see Table 12). HIV and AIDS and smoking were considered by 34% and 36% of organisations respectively to have a moderate to large influence followed by alcohol use (30%), stress (29%) and tuberculosis (24%). See Table 12 below.

The Kruskal-Wallis tests (depicted in Table 13), indicated that smaller companies generally perceived most health conditions to have a smaller impact on their production costs than medium to large organisations with the exception of TB and chronic back and neck ache where they reported a similar impact than medium organisations. For HIV and AIDS, tuberculosis and alcohol use, medium sized and larger organisations indicated a similar impact on their production costs while smoking and cholesterol was seen more serious by larger organisations in comparison to the others.

The Mann-Witney U Test showed a significant difference in the perceived impact of HIV and AIDS by multinational (Md= 3, n=17) and other (Md= 2, n=54) enterprises, U=306, z=-2.12, p=.034. Multinational companies recorded a higher median score than others with a medium effect as $r = .25$.

Table 12

Perceived impact of health factors on company's production costs

| Health factors | None | | Very small & small | | Moderate | | Large | | M* | SD | Me |
|--------------------------|------|----|-----------------------|----|----------|----|-------|---|------|-----|----|
| | n | % | n | % | n | % | n | % | | | |
| Tuberculosis | 17 | 24 | 38 | 53 | 12 | 17 | 5 | 7 | 2.53 | 1.2 | 2 |
| Stress | 11 | 15 | 40 | 56 | 16 | 23 | 4 | 6 | 2.75 | 1.1 | 3 |
| Alcohol use | 11 | 15 | 40 | 56 | 17 | 24 | 4 | 6 | 2.72 | 1.2 | 3 |
| Hypertension | 18 | 25 | 39 | 54 | 11 | 15 | 4 | 6 | 2.47 | 1.2 | 2 |
| HIV&AIDS | 14 | 20 | 33 | 46 | 19 | 27 | 5 | 7 | 2.77 | 1.2 | 3 |
| Smoking | 10 | 14 | 36 | 50 | 20 | 28 | 6 | 8 | 2.90 | 1.2 | 3 |
| Obesity | 29 | 41 | 36 | 51 | 5 | 7 | 1 | 1 | 2.01 | 1.0 | 2 |
| High cholesterol | 27 | 38 | 38 | 53 | 6 | 8 | 1 | 1 | 2.03 | 1.0 | 2 |
| Back or neck ache | 11 | 15 | 43 | 60 | 14 | 19 | 4 | 6 | 2.67 | 1.1 | 3 |
| Diabetes | 20 | 28 | 42 | 58 | 7 | 10 | 3 | 4 | 2.31 | 1.1 | 2 |

*Range 1-5

Table 13

Perceived impact of health factors on production costs by company size

| Health factors ^a | N | X ² (df=2) | p | Median ^b | | |
|-----------------------------|----|--------------------------|--------|---------------------|-----------|----------|
| | | | | Small(n) | Medium(n) | Large(n) |
| Diabetes | 72 | 15.95 | <0.001 | 1(21) | 2(19) | 2(32) |
| Smoking | 72 | 21.95 | <0.001 | 1(21) | 2(19) | 3(32) |
| Cholesterol | 72 | 26.53 | <0.001 | 1(21) | 2(19) | 3(32) |
| HIV/AIDS | 71 | 14.80 | .001 | 1(20) | 3(19) | 3(32) |
| Alcohol | 73 | 12.14 | .002 | 1(21) | 3(19) | 3(33) |
| Tuberculosis | 73 | 9.80 | .007 | 2(21) | 3(19) | 3(31) |
| Obesity | 71 | 9.31 | .009 | 1(20) | 2(19) | 2(32) |
| Back/Neck ache | 72 | 8.68 | .013 | 2(21) | 2(19) | 3(32) |

^a Significant results of Kruskal-Wallis tests ($p \leq .05$), ^b Range 1-5

When asked to rank each health factors in terms of its impact on company production costs (on a scale of 1 to 10 - not depicted in a table), 20 companies ranked HIV and AIDS as having a major impact (ranked 10) followed by tuberculosis (10 companies), and then very similarly, eight companies ranked hypertension, alcohol use and smoking

to have a major impact while chronic back/neck ache was ranked by seven companies to have a major impact. Only a few companies ranked stress, diabetes, obesity and high cholesterol (6, 5 and 4 companies respectively) as having a major impact.

In Table 14 the results of the Kruskal-Wallis tests pointed out that alcohol, hypertension and smoking are ranked significantly different by small, medium and large organisations. Smaller organisations are more likely to perceive alcohol and smoking to have the highest impact on their production costs in comparison to medium and larger organisations while larger organisations view hypertension to have a more serious impact on their production costs than the other organisations.

Table 14

Ranked impact of health factors on production costs by company size

| Health factors ^a | N | X ² (df=2) | p | Median ^b | | |
|-----------------------------|----|--------------------------|-------|---------------------|-----------|----------|
| | | | | Small(n) | Medium(n) | Large(n) |
| Alcohol | 65 | 10.22 | 0.006 | 8(15) | 7.5(18) | 5.5(32) |
| Hypertension | 62 | 9.55 | 0.008 | 5(14) | 4.5(16) | 8(32) |
| Smoking | 66 | 7.73 | 0.021 | 8(17) | 7(17) | 4(32) |

^a Significant results of Kruskal-Wallis tests ($p \leq 0.05$); ^b Range 1-10

With regards to company ownership it seems that chronic back and neck ache is the only health condition that is rated differently by multinational (Md =8, n=17) and locally owned organisations (Md=6 , n=47); (U=259.5, z=-2.147, p=.032). The effect size of $r = 0.27$ is medium.

4.4 Monitoring of health influencing factors on production costs

The data suggest that most monitoring efforts are made for HIV&AIDS (24%). With regards to moderate to large monitoring effort it is clear that tuberculosis is important (46%), followed by alcohol use (42%), smoking (31%) and stress (26%). The health factors that are least monitored are obesity (48%), high cholesterol (41%) and diabetes (37%). (See Table 15.)

Table 15

Monitoring of health influencing factors on production costs

| Health factors | None | | Very small & small | | Moderate | | Large | | M* | SD | Me |
|--------------------------|------|----|-----------------------|----|----------|----|-------|----|------|-----|----|
| | n | % | n | % | n | % | n | % | | | |
| Alcohol use | 13 | 18 | 22 | 30 | 26 | 36 | 12 | 16 | 2.23 | 1.3 | 4 |
| Tuberculosis | 15 | 21 | 24 | 33 | 26 | 36 | 7 | 10 | 3.01 | 1.3 | 3 |
| Stress | 18 | 25 | 36 | 49 | 14 | 19 | 5 | 7 | 2.59 | 1.2 | 3 |
| Smoking | 21 | 29 | 29 | 40 | 19 | 26 | 4 | 5 | 2.56 | 1.3 | 2 |
| HIV&AIDS | 11 | 15 | 21 | 29 | 23 | 32 | 17 | 24 | 3.31 | 1.4 | 4 |
| Hypertension | 22 | 30 | 25 | 34 | 13 | 18 | 13 | 18 | 2.77 | 1.5 | 3 |
| Obesity | 35 | 48 | 29 | 40 | 6 | 8 | 3 | 4 | 1.99 | 1.2 | 2 |
| Diabetes | 27 | 37 | 26 | 36 | 9 | 12 | 11 | 15 | 2.51 | 1.5 | 2 |
| Back or neck ache | 22 | 30 | 34 | 47 | 12 | 16 | 5 | 7 | 2.48 | 1.3 | 2 |
| High cholesterol | 30 | 41 | 29 | 40 | 7 | 10 | 7 | 10 | 2.22 | 1.3 | 2 |

*Range 1 to 5

From Table 15 it is clear that many organisations do not monitor obesity (48%), high cholesterol (41%), diabetes (37%) and hypertension (30%). The health factors that seem to be moderately to largely monitored for its impact on production costs are HIV and AIDS (56%), alcohol use (52%) and tuberculosis (46%).

The Kruskal-Wallis tests (Table 16) showed a statistically significant difference in the monitoring of diabetes, hypertension, HIV and AIDS and tuberculosis on production costs by larger organisations while HIV and AIDS seems to be monitored also by medium sized organisations.

No significant differences were detected between multinational and other enterprises with regards to the monitoring of the health factors on production costs. Nevertheless, the Mann Whitney U-tests indicated significant differences in the monitoring of various health conditions in organisations that have a wellness programme versus those that do not. Most organisations with a WWP appeared to be better able to monitor the health influencing conditions in the workplace. See Table 17 in this regard.

Table 16

Monitoring of health factors on production costs by company size

| Health factors ^a | N | X ² (df=2) | p | Median ^b | | |
|-----------------------------|----|--------------------------|-------|---------------------|-----------|----------|
| | | | | Small(n) | Medium(n) | Large(n) |
| Diabetes | 73 | 16.99 | <.001 | 1(21) | 2(19) | 4(33) |
| Hypertension | 73 | 12.78 | .002 | 2(21) | 2(19) | 4(33) |
| HIV & AIDS | 72 | 10.64 | .005 | 2.5(20) | 4(19) | 4(33) |
| Tuberculosis | 72 | 8.525 | .014 | 2(21) | 3(19) | 4(32) |

^a Significant results of Kruskal-Wallis tests ($p \leq .05$); ^b Range 1 to 5

Table 17

Efforts in monitoring the impact of health factors on production costs in terms of workplace wellness programmes (WWP)

| Health factors ^a | U | z | p | Median | Median | r ^b |
|-----------------------------|--------|--------|------|---------|------------|----------------|
| | | | | WWP (n) | No WWP (n) | |
| Diabetes | 407.0 | -2.638 | .008 | 3(37) | 2(34) | 0.306 |
| Hypertension | 409.5 | -2.586 | .010 | 3(37) | 2(34) | 0.300 |
| Back and neck ache | 415.0 | -2.534 | .011 | 3(37) | 2(34) | 0.294 |
| Obesity | 426.5 | -2.483 | .013 | 2(37) | 1(34) | 0.288 |
| High Cholesterol | 448.5 | -2.170 | .030 | 2(37) | 1(34) | 0.252 |
| HIV and AIDS | 432.50 | -2.155 | .031 | 4(37) | 3(33) | 0.257 |
| Stress | 450.0 | -2.116 | 0.34 | 2(37) | 1(34) | 0.246 |

^a Mann-Whitney U test ($p \leq 0.05$);

^b Cohen's Criteria: 0.1=small effect; 0.3=medium effect; 0.5=large effect.

4.4.1 Qualitative findings pertaining to the management and monitoring of health factors

The professional nurse practitioner responsible for occupational health and safety were cited to play a critical role in company health and provides a mechanism through which health factors are managed, monitored and through which employees are referred for further care and support. Key responsibilities include the provision of primary health care, pre-employment assessments and screening, and in the event of an injury on duty, ensure that the necessary procedures are followed to comply with the Occupational Health and Safety legislation. In situations where companies do not have a professional nurse on site, this function is outsourced to private health and safety services or public

health services. The following quotations underscore the role of the professional occupational and health nurses in the companies in the provision of basic primary care.

“I have to start off by saying; we have got a full time registered occupational nurse onsite...Which is doing normal baseline medical monitoring that she’s supposed to be doing...And the screening in the workforce and together with that, also provides prime care services to our people which then, ... provides us with the further opportunity of getting information...”

“I was in the clinic presently; she said to the guy: “You know that I was about to phone this afternoon following our previous,, the previous incident where I had to monitor you”, I think it’s blood pressure at that stage, that she wanted to do it, she said that she recorded it. And she follows us up...”

“Yes, we use Macro Safe¹ and they go around We say, look it’s confidential and you just say, what happened to Macro Safe who does monitoring for us.”

Company nurses also ensure an appropriate referral system for employees“ further health care and support needs when required.

“Hum, she consults with them, directs them and put him in connection, hummmm..., in touch with the correct people that can support them ...”

In some companies, specific attention seems to be paid to the monitoring of key health issues such as HIV and AIDS, tuberculosis and alcohol use as these conditions were also viewed to impact of the production costs of the companies.

Tuberculosis and HIV and AIDS

The occupational nurse plays a vital role in monitoring tuberculosis in the companies.

“Most companies have that, ok, tuberculosis we have got a company sister on site should we identify that the person does suffer from TB or if he’s got a TB infection, then obviously they will send the individual to their personal GP...”

¹ Macro Safe is an electronic external support system for health related problems in the organisation that workers are experiencing. It is monitored electronically by the company

Ja, hummm.., whoever has blood pressure problems can then go to the company sister and be regularly monitored

TB was linked to the presence of HIV and AIDS in the organisation with associated increased absenteeism and sick leave resulting in various organizational challenges. The presence of TB and its consequences are viewed as follows:

"...we have quite a marked incident here, we have quite a serious incidence of TB".

The impact of HIV on the organisations was generally viewed to be moderate in the absence of a clear understanding of the HIV prevalence among the employees as suggested by the following participant:

"Yes, hum, obviously you can't, hum we obviously don't know who the individuals are, medical department alone knows, and you would obviously be able to pick up on, not us but, on sick leave cost, so..."

However, the incidence of TB, an AIDS related opportunistic infection, seems to be used as an indication of the prevalence of HIV in the organisation.

"Look I think it's mainly, hum, I suppose that would have been informed when the company knows but it would be mainly on the elements that go, the illnesses that are linked to HIV obviously... Obviously, because HIV concept, HIV and all the illnesses...You know the same ja, because that does go hand in hand basically, because normally humm.., TB and HIV – they tend to have TB and so on, so subjects tend to be prone to TB"

It is also clear that a high incidence of TB poses a significant threat to the competitiveness of the organisation as suggested by the following participant:

"...And that's a bit worrying, obviously that I can't give you the number of people involved but it's a huge risk for us because if we lose our operators, we lose a large percentage of experience... And I mean we had a number of cases where we had people in a more severe, they had to be away from work"

As a way to manage the impact of TB on the organisation, various strategies are employed such as TB screening, medical surveillance from the NDoH, the in-house

occupational nurse or an outsourced wellness programme. The procedure followed in an organisation when an employee is diagnosed with TB is described below:

“...most companies have that, ok, tuberculosis we have got a company sister on site should we identify that the person does suffer from TB or if he’s got a TB infection, then obviously then they will send the individual to their personal GP and obviously with our contractual obligation hummm.. if it’s somebody like a temp, we will then - obviously the contract won’t continue... for our permanent employee - a normal sick leave policy would kick in... But we have got an onsite system....”

Alcohol use and abuse

Participants rated the impact of alcohol abuse on company production and overall performance between moderate to serious. Alcohol use and abuse impact on organisations through absenteeism and poor work performance.

“Alcohol abuse ..it’s up to the individual to disclose that...we have a counselling format where somebody is absent for so many days within his cycle, we would call him and do a first counselling... but there are these sporadic incidences, one guy now- I know the history but he hasn’t come to the point that he has disclosed that. And he is about to be dismissed ...”

With regards to poor work performance due to alcohol use, the following comment sheds light on this problematic work situation:

“So if you’re coming here, you can actually see a lot of ... bottles, empty bottles lying around, we had - one case, where basically the guy was lucky to get away with it, as far as I’m concerned, but I mean he was drunk on duty - and I mean- he was drinking at work, but unfortunately I’m not the person that made the final decision. He got a final written warning, but other than that, we know it’s a problem, because every week, we can see the bottles all over the place”

The risk that alcohol use and abuse pose for a company’s occupational safety record is a serious concern for organisations.

“...when we filled in this thing (questionnaire), it was basically getting to December. Then people start you know, would have parties at home, come to

work under the influence and with the result, because we work with presses, you have to send them home... It's dangerous, you see and this is why, well I've just come from the doctors now, with one who had a finger under the press, that was a accident"

The negative health consequences resulting from the abuse of alcohol on the employees' general health status i.e. stress, depression and uninhibited sexual behaviour were also highlighted as causes of concern. Importantly, alcohol is viewed to impact negatively the organisations' efforts to curb HIV as employees' HIV vulnerability is increased through the likelihood of unsafe sexual practices.

"Well, education which is given through to the people is good, the only problem is, and you have got the players...that's the result, in anywhere when alcohol is involved...but if I have ten brandies and women sound to be prettier and prettier, you know"

4.5 Perceived success in addressing the impact of health factors on production costs

A substantial number of organisations (37%) believe that they are only marginally successful in addressing the impact of HIV and AIDS and smoking on production costs. Some organisations reported being moderately successful in addressing obesity (32%), and tuberculosis (28%). High cholesterol seems to be successfully managed with 29% and 24% reporting moderate and large effects respectively. Companies do not seem to think that they have large successes in managing HIV and AIDS (0%), alcohol use (1%), and stress (1%). See Table 18 below.

The Kruskal-Wallis test results (Table 19) suggest that large organisations are more likely to address the impact of high cholesterol, hypertension, diabetes, HIV and AIDS, chronic back and neck ache, tuberculosis and smoking on production costs than small and medium sized organisation.

The Mann-Witney U Test revealed a significant difference in the perceived success in managing tuberculosis by multinational (Md= 4, n=18) and other (Md= 3, n=53) organisations, $U=325.5$, $z=-2.06$, $p=.04$. The effect $r = .244$ can be considered to be a small to medium.

Table 18

Perceived success in managing the impact of health factors on production costs

| Health factors | Do nothing | | Very small & small | | Moderate | | Large | | M* | SD | Me |
|----------------------------|------------|----|-----------------------|----|----------|----|-------|----|------|------|----|
| | n | % | n | % | n | % | n | % | | | |
| Obesity | 46 | 65 | 19 | 27 | 5 | 7 | 1 | 1 | 1.70 | 1.07 | 1 |
| Tuberculosis | 18 | 25 | 25 | 35 | 20 | 28 | 8 | 11 | 2.82 | 1.39 | 3 |
| Stress | 29 | 40 | 25 | 35 | 17 | 24 | 1 | 1 | 2.29 | 1.26 | 2 |
| Smoking | 24 | 34 | 26 | 37 | 19 | 27 | 2 | 3 | 2.45 | 1.25 | 2 |
| High Cholesterol | 32 | 45 | 26 | 37 | 13 | 18 | 0 | 0 | 2.13 | 1.18 | 2 |
| High blood pressure | 30 | 42 | 20 | 28 | 17 | 24 | 4 | 6 | 2.39 | 1.39 | 2 |
| Alcohol use | 16 | 23 | 22 | 31 | 23 | 32 | 10 | 14 | 3.08 | 1.37 | 3 |
| Diabetes | 31 | 44 | 20 | 28 | 16 | 23 | 4 | 6 | 2.35 | 1.38 | 2 |
| Back/ neck ache | 29 | 40 | 23 | 32 | 16 | 22 | 4 | 6 | 2.39 | 1.36 | 2 |
| HIV/AIDS | 17 | 24 | 17 | 24 | 21 | 29 | 17 | 24 | 3.19 | 1.51 | 4 |

*Range 1-5

Organisations with a WWP perceived to be more successful than the others to manage the various health factors on their production costs. The results of the Mann-Whitney U tests (Table 20) suggested that these organisations were better able to manage the impact of obesity, stress, smoking, cholesterol, hypertension, diabetes, chronic back and neck ache as well as HIV and AIDS on their companies' production costs than those without a wellness programme.

Table 19

Perceived success in managing impact of health factors on production costs

| Health factors ^a | X ² (df=2) | p | Median ^b | Median ^b | Median ^b |
|-----------------------------|--------------------------|--------|---------------------|---------------------|---------------------|
| | | | Small (n) | Medium(n) | Large(n) |
| Cholesterol | 17.38 | <0.001 | 1(20) | 1(18) | 3(33) |
| Hypertension | 24.10 | <0.001 | 1(20) | 1(18) | 4(33) |
| Diabetes | 28.40 | <0.001 | 3(20) | 3(18) | 4(33) |
| HIV & AIDS | 13.90 | .001 | 1.5(20) | 2(19) | 4(33) |
| Tuberculosis | 10.93 | .004 | 1.5(20) | 2(18) | 4(33) |
| Back & Neck Ache | 6.93 | .030 | 1(20) | 1(19) | 3(33) |
| Smoking | 6.08 | .004 | 1(20) | 2.5(18) | 3(33) |

^a Significant results of Kruskal-Wallis tests (p≤.05) ; ^b Range 1to 5

Table 20

Perceived success in managing impact of health factors on production costs in terms of organisation wellness programmes (WP)

| Health factors ^a | U | z | p | Median ^b | | r ^c |
|-----------------------------|-------|--------|-------|---------------------|-----------|----------------|
| | | | | WP (n) | No WP (n) | |
| Obesity | 369.0 | -2.925 | .003 | 2(37) | 1(31) | .354 |
| Stress | 366.0 | -3.013 | .003 | 3(37) | 1(33) | .360 |
| Smoking | 372.0 | -2.745 | .006 | 3(37) | 1(32) | .330 |
| Cholesterol | 345.0 | -3.151 | .002 | 3(37) | 1(32) | .378 |
| Hypertension | 343.5 | -3.144 | .002 | 3(37) | 1(32) | .378 |
| Diabetes | 314.5 | -3.522 | <.001 | 3(37) | 1(32) | .424 |
| Back /Neck Ache | 346.5 | -3.246 | .001 | 3(37) | 1(33) | .388 |
| HIV&AIDS | 394.5 | -2.614 | .009 | 4(37) | 3(33) | .312 |

^a Mann-Whitney U test ($p \leq 0.05$); ^b Range 1-5.

^c Cohen's Criteria: 0.1=small effect; 0.3=medium effect; 0.5=large effect.

4.6 Perceptions regarding the automotive sector's responses to the economical impacts of health factors

With regard to views about the automotive sector's responses in addressing the economical impacts of health factors, the results suggests that only HIV and AIDS receive more than adequate attention (28.8%) by this sector. However, the following health factors perceive to receive very little, if any attention: stress (54.7%); obesity (43.9%); by chronic back and neck ache (38.5); diabetes (31.8%), followed by hypertension (28.8%) and alcohol use (28.1%). (See Table 21 below)

The Kruskal-Wallis tests showed no significant difference between large, medium and small organisations with regards to their views about the automotive sector's responses to the economical impacts of the health factors. No significant differences were also found between multinational and local organisations pertaining to views regarding the automotive sector's responses.

Table 21

Perceptions re automotive sector's response to economical impacts of health factors

| Health Factors | Inadequate | Neutral | Adequate | More than adequate | M* | SD | Me |
|------------------|------------|-----------|-----------|--------------------|------|------|----|
| | n(%) | n(%) | n(%) | n(%) | | | |
| Stress | 35 (54.7) | 17 (26.6) | 9 (14.1) | 3 (4.7) | 2.53 | 1.06 | 2 |
| Tuberculosis | 13 (20.0) | 27 (41.5) | 20 (30.8) | 5 (7.7) | 3.2 | .98 | 3 |
| Alcohol | 18 (28.1) | 23(35.9) | 18 (28.1) | 5 (7.8) | 3.06 | 1.08 | 3 |
| Smoking | 18 (27.3) | 27 (40.9) | 17 (25.8) | 4 (6.1) | 3.03 | 1.00 | 3 |
| HIV&AIDS | 11 (16.7) | 17 (25.8) | 19 (28.8) | 19 (28.8) | 3.62 | 1.21 | 4 |
| Back/Neck ache | 25 (38.5) | 25 (37.9) | 11 (16.9) | 4 (6.2) | 2.82 | 1.02 | 3 |
| Obesity | 29 (43.9) | 25 (37.9) | 10 (15.2) | 2 (3.0) | 2.56 | 1.08 | 3 |
| Diabetes | 21 (31.8) | 25 (37.9) | 17 (25.8) | 3 (4.5) | 2.92 | 1.04 | 3 |
| Hypertension | 19 (28.8) | 25 (37.9) | 18 (27.3) | 4 (6.1) | 3 | 1.06 | 3 |
| High cholesterol | 21 (31.8) | 27 (40.9) | 16 (24.2) | 2 (3.0) | 2.88 | 1.00 | 3 |

*Range 1 to 5

4.6.1 Qualitative findings regarding the automotive industry's responses

The general view was that the large automotive companies are putting more effort in health and wellness and that smaller companies should therefore work together to respond appropriately to the health challenges they face. The cost and labour intensity of programmes were seen to make it difficult for smaller organisations to effectively address health related factors in their organisations.

“Bigger companies are really serious about what they're doing, I think the component industry people, like ourselves, are not serious enough- it's got a lot to do with the finances, because we're smaller and we don't have the resources and things like that, I think that basically there's something like maybe ..., combine the effort from all the component suppliers and maybe how to make and how to build it up and take it further.... because then you know how it looks like...”

“All the component manufactures, like they operate their own little hub and they don't actually utilize and try to combine the resources together....”

“So if I talk about the sector and the industry and I also know FORD has make contact with us and also AIDC, you guys supporting an initiative that

runs something through Ford, hey if I got it correct, so... I think overall, the sector is making a huge contribution towards getting things addressed”

4.7 Workplace interventions

With regards to HIV and AIDS workplace initiatives, it seems that most companies has responded to HIV and AIDS as 70.4% of companies indicating having a HIV and AIDS education programme, 57.5% workplace HCT services while fewer organisations (21.1%) provide ART services. More than half of the companies (52.1%) have workplace wellness programmes. Larger organisations were also significantly more likely to have HIV and AIDS education programmes ($X^2=7.003$, $df=2$, $p=0.03$, Cramer's $V=0.432$); HCT services ($X^2=13.229$, $df=2$, $p=0.001$; Cramer's $V=0.432$) than the other medium and smaller organisations. No differences were detected with regards to ART services or wellness programmes in terms of organisation size while company ownership was not related to any of the workplace health promotion interventions.

However, organisations that reported having a wellness programme were more likely to indicate having a HIV and AIDS education programme ($X^2=5.035$, $df=1$, $p=0.025$, $\phi=0.30$) and HCT services ($X^2=8.208$, $df=1$, $p=0.004$, $\phi=0.37$). While not significant, of the 14 organisations that do provide ART services, 10 indicated having a workplace wellness programme.

The Mann-Witney U Test revealed a significant difference in the perceived impact of HIV and AIDS on production costs and organisations having a HIV and AIDS education programme ($Md=3$, $n=49$) and those that did not ($Md=2$, $n=20$), $U=314$, $z=-2.392$, $p=.017$, with an effect size of $r=.288$. Similarly, a significant difference was detected in the ranking of the impact of HIV and AIDS on the organisation's production costs and enterprises that provide ART services ($Md=10$, $n=14$) and those that do not ($Md=7$, $n=48$), $U=214.5$, $z=-2.087$, $p=0.037$, with a medium effect of $r=0.265$. No significant differences were found in organisations that provide workplace HCT.

The majority of companies (65.5%) seemed to believe that a comprehensive workplace wellness programme will be successful in addressing their health challenges, 37.5% believed it to be moderately and 28% believed it to be highly successful. However, fewer companies (59.5%) believed that an HIV and AIDS programme will be successful

(32% indicated moderately and 27.5% highly successful) in addressing their health challenges. The Kruskal-Wallis tests (see Table 22) pointed to a significant difference in the mean scores for the small versus larger organisations with regards to these perceptions. Small organisations were not convinced about the likely success of both these programmes.

Table 22

Likely success of workplace wellness and HIV and AIDS programmes

| Programmes ^a | N | X ² (df=2) | p | Median ^b | | |
|---|----|--------------------------|-------|---------------------|-----------|----------|
| | | | | Small(n) | Medium(n) | Large(n) |
| Comprehensive Wellness programme | 70 | 11.77 | 0.003 | 2(21) | 4(18) | 4(31) |
| HIV and AIDS programme | 69 | 13.42 | 0.001 | 2(21) | 4(16) | 4(32) |

^aSignificant results of Kruskal-Wallis tests ($p \leq .05$); ^bRange 1 to 5

Furthermore, a strong positive correlation ($r=.796$) was found between perceived success of a comprehensive wellness programme and an HIV and AIDS programme in addressing the companies' health challenges.

4.8 Workplace health promotion programme content and initiatives

The frequencies shown in Table 23 indicate that the majority of companies believe that a health promotion programme should pay considerable attention to HIV and AIDS (57% of the companies), followed by tuberculosis (38% of the companies), alcohol use (28% of the companies) while 25% of companies believe stress and smoking also need attention. The health factors believed to receive no or little attention are obesity (mentioned by 68% of companies), high cholesterol (53% of companies) and chronic back or neck ache (52% of companies).

In accordance to the outcomes of the Kruskal-Wallis tests as depicted in Table 24, larger organisations seemed to believe that most health factors should receive attention in WWP programmes in comparison to smaller organisations. No significant differences were detected in the Mann-Whitney U-tests for multinational and local organisations' perceptions regarding the focus of health promotion programmes.

Table 23

Perceptions regarding health factor focus in health promotion programmes

| Health factors | None | | Little | | Moderate | | High Levels | | M* | SD | Me |
|--------------------------|------|----|--------|----|----------|----|-------------|----|------|------|----|
| | n | % | n | % | n | % | n | % | | | |
| Diabetes | 8 | 11 | 22 | 31 | 24 | 34 | 17 | 24 | 3.41 | 1.33 | 4 |
| High Cholesterol | 8 | 12 | 28 | 41 | 24 | 35 | 9 | 13 | 3.22 | 1.21 | 3 |
| Stress | 4 | 6 | 25 | 35 | 24 | 34 | 18 | 25 | 3.56 | 1.20 | 4 |
| Smoking | 3 | 4 | 28 | 39 | 22 | 31 | 18 | 25 | 3.59 | 1.14 | 4 |
| HIV&AIDS | 4 | 6 | 11 | 15 | 16 | 22 | 41 | 57 | 4.18 | 1.19 | 5 |
| TB | 3 | 4 | 18 | 25 | 24 | 33 | 27 | 38 | 3.86 | 1.19 | 4 |
| Obesity | 12 | 17 | 36 | 51 | 18 | 25 | 5 | 7 | 2.80 | 1.20 | 3 |
| Alcohol | 3 | 4 | 20 | 28 | 28 | 39 | 20 | 28 | 3.75 | 1.13 | 4 |
| Back or neck ache | 4 | 6 | 33 | 46 | 21 | 30 | 13 | 18 | 3.37 | 1.14 | 3 |
| Hypertension | 5 | 7 | 25 | 35 | 25 | 35 | 16 | 23 | 3.48 | 1.22 | 4 |

*Range 1-5

Table 24

Health conditions to address in workplace wellness programmes

| Health factors ^a | N | X ² (df=2) | p | Median ^b | | |
|-----------------------------|---|--------------------------|--------|---------------------|-----------|----------|
| | | | | Small (n) | Medium(n) | Large(n) |
| Diabetes | | 17.19 | <0.001 | 2(20) | 3(19) | 4(32) |
| Obesity | | 16.72 | <0.001 | 2(20) | 3(19) | 3(32) |
| Hypertension | | 15.96 | <0.001 | 3(20) | 4(19) | 4(32) |
| Stress | | 13.58 | .001 | 3(20) | 4(19) | 4(32) |
| High Cholesterol | | 12.31 | .002 | 2(19) | 3(19) | 4(31) |
| Back or neck ache | | 8.67 | .013 | 3(20) | 3(19) | 4(33) |
| Tuberculosis | | 7.66 | .022 | 3.5(20) | 5(18) | 4(32) |
| HIV and AIDS | | 7.41 | .025 | 3.5(20) | 5(19) | 5(33) |
| Smoking | | 6.68 | .035 | 3(20) | 4(19) | 4(32) |

^a Significant results of Kruskal-Wallis tests (p≤.05) ; ^b Range 1to 5

4.8.1 Qualitative findings pertaining to workplace health promotion interventions.

In addressing health factors in the workplace, the participants referred to various interventions and strategies. As previously mentioned, costs do seem to play a role in determining what is being offered as reflected in this participant's words:

"... There's a continuous effort towards that, hum, costs involved we've been very creative this year around, there was no money for that, hum...ee actually draw on our sponsors..."

The occupational health nurse, as alluded to earlier, is viewed as playing an important role in the provision of health education and in addressing lifestyle issues that may impact on employees' health status.

"if I can say, .. in many instances we all go to the clinic when we need to ... And she's there, so she creates an awareness... Within one week, there would be at least two occasions when she will be going up with the team... you know and ... create an awareness"

Various participants mentioned the employment of "wellness programmes" or rather "wellness days" in their attempts to create health awareness and thus to address health impacting factors in the workplace. However, the participants felt that few comprehensive wellness programmes exist in the industry as the focus of most companies are "health specific rather than comprehensive". Health screening was also mentioned to be a primary focus, instead of a comprehensive wellness programme as reflected in their workplace budgets for health related challenges.

"Hmm..., we normally budget in terms of that to, to be available, to be, to be able to make a contribution for those days, we also, hmmm..., on top of that, we also do like, women's day, we also make use of that and get people to come and talk to us about prostate cancer, all those various factors, we've also beside the, the HIV day, during the year, have a wellness day."

The value of a comprehensive occupational health and safety system in the workplace in addressing health aspects in the organisation has been viewed as a mechanism through which health is addressed in the workplace.

"Hmmm..., look I think - I am going back from my experience from my side... If you've got a very good health and safety system in place and it's working well, I think basically you got a lot a lot of success out of it"

It is however clear that commitment is required from employees and especially people in supervisory capacity in adhering to the organisation's health and safety priorities.

"... I'm still concerned about in this company itself it worries me a lot is basically the people that should be committing themselves to it, they're not committed enough, they tend to leave it hum, I'm using an example now... Like a Foreman for argument sake who's not committed to health and safety. He believes it is Management problems which is not ...a foreman is the heart of the, of, of the company, because he's dealing with the person"

The participant in one of the larger organisations mention specifically the ICAS programme, offering company wellness services as required by the relatively newly introduced compulsory Employment Assistance Programme. ICAS is a provider of Employee Assistance, Wellness and Wellbeing Programmes (EWPs); behavioural risk management services and critical incident support through counseling services.

"We have an ICAS programme ...hmmm..., a wellness programme, that's been run by the company from a national level, ... where people have access to various expertise depending on what the problem is"

It seems that when organisations refer to Wellness Programmes, some actually refer to the ICAS programme i.e. an outsourced initiative to address company wellness issues rather than a fully integrated company driven wellness initiative.

Issues of confidentiality and trust emerged as important components of a wellness programme as this would enable employees to voluntary seek help for personal health related problems.

"It it would be valuable ... but I think for that programme to be effective you need to have an element of trust first ...amongst the workforce .. if it is not the case, people won't open up"

In support of providing counseling services to the employees, counselling services were made more accessible by providing on site counseling instead of making appointments to see counselors elsewhere.

“Our employees can go offsite and see counsellors, hum, last year I think, last year we started or the year before, hum, where we got a counsellor an onsite counsellor to come and do onsite counselling because many of the people wouldn’t pitch at the sessions they had booked, so it’s easier for them to access it onsite so...”

Peer education seems to be a popular strategy in bringing about awareness of health issues and in particular of HIV and AIDS among employees and to offer some support to HIV and AIDS affected individuals. They seem to be involved in group discussions with the workforce on a regular basis.

Various HIV and AIDS related services are provided by the organisations such as HIV counseling and testing services and access to ART. Some businesses feel that HIV awareness has increased amongst the workforce, which has led to increased testing:

“We had a lot of testing done, it went well, people are more and more open ..” and “coming forward voluntarily”

ART is made available in some companies to employees and their families through their company doctor:

“Ja, and we also do have on our medical aid, the benefit of them having the HIV support system”

In other organisations, the company sister is tasked to refer an employee in need of ART to the local NDoH clinic for further care and support. Another important treatment intervention mentioned by one organisation is their involvement in supporting the NDoH’s national DOTS programme for TB treatment.

“The pills are brought here to our factory and our production lady that sits in the, in the front, we have to make sure that every time someone has to have that pill. They have those pills or she calls the person up to the office and make sure that they actually take it, so she witnesses that they are actually taking it so, how can I say, not trying to bypass the process”

A major challenge raised was the way to curb alcoholism in the work place. While alcohol use and abuse are occasionally addressed in their wellness campaigns, some

uncertainty exists as to the kind of programme that would be effective in addressing this serious problem. In efforts to curb absenteeism (mostly through behaviours such as alcohol use), various interventions are used i.e. compulsory counselling, referral to rehabilitative services and then as a last resort, dismissal.

“...you see, normally when there’s issues, it would be in terms of people not being at work or absent...that would put you into the performance management process of, you know consultation. So, in that consultation, the consultation is not to get you out, it’s to try to help you to get them right, to better perform. ..Yes, and then we actually have follow up sessions in terms of that, that’s the support we provide, you know, it’s agreed, what actions come out of that and it’s a session ...the next meeting to follow up will be to know how you progressed towards that and should you need other, you shouldn’t necessary wait for the next...”

In this regard it thus seems that most companies have *“some sort of policy or action against alcohol abuse and a disciplinary procedure”* in which strategies such as counseling and referrals to rehabilitative services are used to deal with employees that are absent from work due to alcohol abuse, are unfit for work due to alcohol intoxication, but also when they drink on work premises as suggested by the following participants:

“...for alcohol use we’ve got a policy in place, so...euh we have a zero tolerance policy euh... attitude towards it... where obviously the disciplinary procedure is followed should we found him above the, the alcohol level”

“Ja, that’s why it is the incapacity process, if I stay out of work, hum..., due to alcohol abuse, I put you in touch with people that can help you, you agree to follow up with that programme, if you do not agree, and after three times, you can actually get into a disciplinary enquiry”

Some felt that a *“comprehensive wellness programme might be more beneficial”* but that such a programme should be linked to an appropriate referral system for continuous support of employees with dependence problems. The importance of a monitoring system to ensure *“following through ... to see if they have gone to the support structure*

that has been made available...” seems critical to the success of any intervention. It seems that adherence to company initiatives is problematic as reflected in this comment:

“Alcohol abuse .. it is linked to absenteeism... Hum we we have a counselling format where somebody is absent for so many days within his cycle we would call him and do a first counselling...one guy now... Unfortunately I know the history but he hasn’t come to the point that he is disclosed that...And he is about to be dismissed because just to be an example he hasn’t used the 3 counselling sessions that we’ve had.”

The **reinforcement** of appropriate health related behaviour is reported to take place through a reward system that may include additional payment, vouchers and recognition amongst others. For example, for not taking sick leave, companies offer incentives:

“Yes, what we do is an incentive on sick leave ... “ If you don’t take any sick leave during the course of the year, you get an additional week paid”

“..There’s an incentive link..., there used to be a monthly bonus not only for absenteeism, but a whole of a lot of things... hmm.. people are also, they are recognised for a hundred percent attendance for the year. Well they’re given a voucher and a certificate as well”

The tight monitoring and management of “sick leave” is seen as an attempt to control absenteeism in the workplace, but also to assist individuals with physical and mental health related problems. As explained by one participant, directly after taking sick leave, an employee is counseled to assess the seriousness of the matter and to intervene timely to prevent an escalation of possible problems.

“Ever goes off sick, going back to work, into an interview, we quickly act on that, to see if we can actually pick up the problem to assist them”

“We had a lot of testing done, it went well, people are more and more hum... Coming forward... Voluntary... Ya, it’s also the support, the comments and the questions, normally when, when we’re engaging a discussion around that it would have been ... it would have been silent.”

The question of using trained peer educators was posed to provide psychosocial support to those infected or affected with HIV. Some companies had not embarked on in this support and it is evident in the following quote:

“It it would be valuable (to make use of peer educators) .. hmm.. but I think for that programme to be effective you need to have an answer to that question, you need to have an element of trust first ...Amongst the workforce for specific or for some individuals, hum that if it is not the case people won’t open up”

Interaction, commitment, supports and cooperation between employees and management was a theme that emerged as being one of the recipes for a successful wellness program.

“Well, I’ll put it this way, all the absenteeism is controlled and reflected on a monthly basis, what we do is we have once a month - we call it state of the business update, where we invite the employees into the boardroom... and from top management they would give specifics with regards to growth within the business including absenteeism as well.”

“...A person from the management team ...that actually drives it and shares ... things like that, and obviously have participation from the workers as well”

“... I’m still concerned about it in this company - it worries me a lot, it is basically the people that should be committing themselves to it, they’re not committed enough, they tend to leave it hum, I’m using an example now... Like a Foreman for argument sake who’s not committed to the health and safety. He believes it is Management problems which is not ...a performer is the heart of the, of, of the company because he’s dealing with the person”

It is evident that the commitment and active role of management in particular is seen critical to the success of health promotion interventions in the workplace as this will not only lend credibility to the initiated activities but will also signify the importance of these initiatives which is likely to foster the participation of all levels of management in the quest for better health in the workplace.

4.9 Summary

The results presented above indicate that the health conditions that are perceived by the organisations to have a moderate to large impact on their production costs are HIV and AIDS, smoking, alcohol use, stress, chronic back/neck ache and tuberculosis. Small organisations generally perceive most conditions to have a smaller impact than larger organisations.

The perceived impact of health influencing conditions seems linked to the monitoring thereof and thus HIV/AIDS, alcohol use, TB and hypertension were reported to be best monitored by medium to large organisations. They were also more likely to perceive some success in the management of these conditions. Organisations who perceive HIV and AIDS to have a negative impact, were also more likely to have a HAWP, offer HCT and ART services and thus able to manage HIV/AIDS.

Despite the fact that the greater majority of organisations indicated having a HAWP, showing some commitment to the fight against HIV/AIDS, larger organisations were more likely to indicate having a HAWP than small organisations. The implementation of WHPs is noted in 52% of the organisations surveyed, irrespective of organisation size. The success in the management of various health influencing factors including HIV/AIDS was more likely in organisations with WHPs. These organisations were also more likely to offer HCT and access to ART for their employees.

While other health influencing factors e.g. stress and hypertension are a concern to particularly larger organisations, health promotion interventions seems to be directed to creating awareness and are often isolated events i.e. “wellness days”. Most companies have basic HIV and AIDS health education initiatives as well as “*wellness days*” during which specific health conditions are addressed to increase awareness about these conditions while larger organisations seems more likely to have implemented more integrated workplace wellness programmes. HCT appears to be available at regular intervals to employees at workplaces while access to ART is not widely available to employees at their workplaces but could be accessed by private or public health providers. In the next chapter the interpretation and discussion of the results is presented in terms of the key issues that were investigated.

CHAPTER 5

DISCUSSION

5.1 Introduction

In this chapter the results of the study is discussed with consideration of the relevant literature. The characteristics of the organisations that comprise the sample are presented first followed by the participants' perceived impact on production costs and efforts in monitoring and management of HIV and AIDS in relation to other health conditions. The results pertained to workplace wellness interventions are offered lastly.

5.2 Characteristics of the participating organisations

The organisations that responded to the survey reflect the broad range in the automotive sector spanning from micro, small and medium to large organisations with a turnover rate from less than R5 million to more than R50 million rand. Despite the low response rate and the relatively small sample, when comparing the sample with the existing AIDC database, it can be assumed that the sample provide some level of representation of the organisations in the automotive sector.

Representation of different sized organisations is particularly important, as it has been argued that small and micro organisations have not responded adequately to the challenges posed by HIV and AIDS (Fraser et al.,2002; Ellis & Terwin, 2005; Vass & Phakathi, 2006) due to limited financial resources and knowledgeable staff in this regard (Connelly & Rosen, 2004, 2006, 2007). The slow response to HIV and AIDS could also be linked to the varied HIV prevalence rate among SME (Vass & Phakathi, 2006; Rosen et al., 2007) and the subsequent belief that HIV and AIDS do not have a major impact on their production costs in relation to other health factors (Workshop on the Impact of HIV and AIDS on the manufacturing section, August 2010). In addition, the views and responses of medium to larger organisations pertaining to HIV and AIDS is important as they are encouraged to support micro and small enterprises in their fight against HIV and AIDS (Ellis & Terwin, 2005).

The fact that about half of the organisations' employees are reported to be either unskilled and semi-skilled is a concern in terms of the likely HIV infection rate as

Evian et al., (2004) and Rosen et al. (2007) found that the HIV prevalence rate is higher among unskilled and semi-skilled than skilled and highly skilled employees. This provides further support for the need of the study to explore employers views about the impact of HIV and AIDS in relation to other health influencing factors on their production costs and current interventions specifically to address HIV and AIDS.

5.3 Influence of HIV and AIDS and other health influencing factors on organisations' production costs

The health influencing factors that are perceived by the organisations, irrespective of size, to have the most significant impact on their production costs are HIV and AIDS and tuberculosis, the most common related opportunistic infection. The co morbidity of tuberculosis and HIV/AIDS is well documented (Abdool Karim, Churchyard et al., 2009; Harries et al., 2010; United Nations Programme of HIV/AIDS, 2011). As organisations are often unable to access HIV prevalence data among their workforce, due to the confidentiality of this information, the prevalence of TB is often the best indirect deductive approach to estimate the likely combined impact of HIV/AIDS and TB on the organisation. Strong support exists for the cost-effectiveness of public-private workplace (PWP) provision of TB treatment in South Africa to reduce costs for the patient, workplace and government (Sinanovic & Kumaranayake, 2006a, 2006b). Employers' strong motivation for economic progress and social responsibility for a healthy workforce, augers well for these workplace initiatives (Sinanovic & Kumaranayake, 2006a, 2010). The capacity in the workplace to monitor the quality of care to employees is critical in TB treatment completion. Mercedes Benz, an automotive manufacturing company, successful support of workplace DOT (Sinanovic & Kumaranayake, 2010) provides an example of a successful PPW initiative in the automotive sector.

Slightly more companies in this study perceived HIV and AIDS to be a threat than reported in the research study by AIDC in 2010 among similar companies in the automotive component sector (Camagu, 2009). This study results concur with that found in the study of Van Zyl and Lubisi (2009) where HIV and AIDS was perceived to have a small to moderate negative impact on company productivity levels, on labour, and to have negative effects on profit levels, prices and sales. These findings differ from the

much earlier study of Fraser et al., (2002) in which SMMEs did not rank HIV and AIDS as a priority. The results of the present study seem however to confirm the impact of a generalized HIV and AIDS epidemic on the South African economy linked to the fact that it is mostly the economically active that are infected (NDoH, 2011; Nel et al., 2006). The negative impact of HIV and AIDS on the South African economy has been a major concern for both the South African Government and business alike (Ellis & Terwin, 2005; Whiteside, 2003; Thurlow et al., 2009). As discussed earlier, it has been argued that the influence occur through rising production costs brought about by ill health, absenteeism, higher employee turnover and even death (Akinyemi, 2008; Bowler, 2004; Colvin et al., 2007; Simtowe & Kinkingninhoun-Medagbe, 2011; Vass, 2002; Quinlan & Willan, 2004). Some of these were also raised as concerns by respondents in this study.

The perceived negative influence of HIV and AIDS as manifested by TB prevalence, might be linked to a higher HIV prevalence among a lower skilled workforce as suggested Evian et al., (2004) and Rosen et al. (2007), discussed earlier. On the other hand, Van Zyl and Lubisi (2009) found that all employees irrespective of their skills and levels of education, were equally affected by HIV. This implies that organisations should nevertheless ensure that all employees of different skills levels are subjected to HIV and AIDS prevention and care interventions.

The general lack of sector specific HIV and AIDS prevalence information should be noted as this may hamper proper planning and timely interventions. Camagu (2009) argued that the lack of available data and the fact that many HIV and AIDS related costs may only be incurred in the future, make it difficult for companies to understand its impact and resulted in many companies ignoring the impact of HIV/AIDS on their business.

The other health influencing conditions that are perceived to have an impact on organisations are substance use i.e. smoking and alcohol use, stress and hypertension as well as chronic back and neck ache – all conditions that are commonly related to stress (Michie & Williams, 2003; Noblet & LaMontagne, 2006). The workplace is a source of stress for most workers (Taylor, 2011) and has been reported to increasingly becoming one of the major causes of occupational disease (Leigh & Schnall, 2000) and negative

consequences for organisation effectiveness through increased absenteeism and lower levels of job performance (Noblet & LaMontagne, 2006). It should be noted that substance use i.e. smoking and alcohol use, has been indirectly linked to stress through escapist or avoidant coping (Siegrist & Rödel, 2006).

From the qualitative findings it was clear that alcohol related absenteeism and workplace intoxication was viewed as serious workplace challenges. Small and medium sized organisations ranked alcohol use and smoking to have a bigger impact on their production costs (ranked 10 on scale of 1-10) than larger organisations. This is possibly as a result of smaller organisations being less able to absorb the impact of productivity lost due to employee alcohol related absenteeism and smoking breaks as smokers are motivated to take regular breaks to reduce nicotine withdrawal symptoms (Sarna et al., 2009).

The detrimental consequences of alcohol use and abuse on organisations have been supported by various studies (Dash, 2000; McFarlin & Fals-Stewart, 2002; Macfarlin, Strobel, Fals-Stewart & Storer, 2000 as cited in McFarlin & Fals-Stewart, 2002). Alcohol use related impacts are also not only brought about through absenteeism and low productivity, but intoxication poses serious safety concerns for employees and management alike (Atkinson, 2001 as cited in Elliot & Shelley, 2006). The safety record of organisations has a complex and profound impact ranging from shareholder confidence, to insurance related costs and legal implications. Furthermore, the legal framework for safety in organisations is shaped by the Bill of Rights and the Amended Occupational Health and Safety Act 85 of 1993. This legal framework places a huge responsibility on organisations to ensure a safe workplace.

The study findings illustrate patterns of interrelatedness between the risk factors of the concerned health conditions. However, the multitude, interrelated risk factors for HIV infection is complex. High levels of stress in organisations are often reflected in hypertension rates linked to cardiovascular disease (Lucini, Riva, Pizzinelli & Pagani, 2007), chronic back and neck ache as well as substance use, smoking and alcohol are often utilized as coping strategies (Azagba et al., 2011). Thus, high levels of personal stress could lead directly or indirectly to an increase in substance use, often alcohol use, that is likely to make individuals vulnerable to engage in unprotected sex with casual

and multiple sex partners which in turn increase their vulnerability for HIV infection (Fisher, Bang & Kapiga, 2007), and also at a later stage, their likelihood to contract TB.

Little attention seems to be paid to diabetes and obesity as this is not perceived to impact organisations negatively. This is however different for countries such as the United States where obesity in particular is a major problem (Yancey, Pronk, & Cole, 2007). Obesity and diabetes are however conditions that should receive adequate attention in health promotion workplace interventions in terms of primary prevention.

It is also interesting to note that the multinational organisations seemed to have a better and advanced understanding of the range of health conditions that influence organisation competitiveness and are also more likely to monitor them. This is possible due to the fact that the international world of work, the ILO's and WHO's in particular, attempt to foster greater awareness of the benefits of health promoting workplaces and advocate for a holistic approach to workplace wellness (WHO, 2009). The efforts by the ILO to promote health and wellbeing through the integration of health promotion into Occupational Safety and Health policies is likely to pave the way for more commitment and enhanced health promotion workplace interventions (Retrieved from <http://www.ilo.org/safework/areasofwork/workplace-health-promotion-and-well-being/lang--en/index.htm>.)

5.4 Monitoring of health influencing factors

Health influencing factors that seems to be best monitored in organisations include HIV/AIDS and tuberculosis, hypertension and alcohol use. Policies to govern HIV and AIDS in workplaces as well as alcohol use in companies were reported to exist in most organisations, similar to the findings reported in the SABCOHA 2005 survey (Ellis & Terwin, 2005). It is likely that the HIV and AIDS policies provide some guidelines in this regard. On the other hand the role of the occupational nurse, as reflected in the qualitative findings, is critical in the monitoring of HIV/AIDS and TB and other conditions. Routine screening for tuberculosis in the workplace is encouraged by the World Economic Forum Global Health Initiative and also promoted through the South African Labour Guide website (Retrieved from <http://www.labourguide.co.za/health-and-safety/tb-what-employers-should-know-1374>).

Although HIV/AIDS was the health factor reported to be most monitored, it was only monitored by 24% of the companies, this speaks to the view of Camagu (2009) that the absence of HIV prevalence data and confidentiality issues might make it difficult for organisations to monitor the impact of HIV/AIDS on their organisations. Nevertheless, the fact that organisation irrespective of size, do engage in the monitoring of HIV/AIDS suggest that it is considered a condition worth the effort. This finding seems contrary to the views of Vass and Phakathi (2006) that SMEs have low levels of motivation and pressure to act on HIV and AIDS in their organisations.

Larger organisations reported also to monitor conditions such as hypertension and to a lesser extent, diabetes. This is probably linked to the presence of occupational nurses and their key work responsibilities relating to health screening. Employees with particular health risks in need of close monitoring are thus identified and supported. What is however of concern is that other health conditions that should also have been identified through routine health screening like diabetes, chronic back and neck ache and even diabetes, were not mentioned. It is possible that the participants in the study were ignorant of the specific health conditions that are monitored by the occupational nurses, an aspect that should be further explored. As mentioned earlier, specific policies to monitor and manage alcohol use in workplaces provide a mechanism through which alcohol use are monitored due its detrimental impact on company production costs but also on safety issues in the workplace.

The perceived success in managing HIV and AIDS, substance use i.e. smoking and alcohol use and stress in organisations appears to be limited, in particularly for small and medium sized organisations. This is of concern as these organisations are less likely to absorb the possible negative impact of these health conditions on their companies through ill health and absenteeism (Colvin et al., 2007; Sarna et al., 2009; Vass, 2002). However, organisations with workplace wellness programmes appear to be more successful in managing the impact of health conditions on their organisation than the others. The cost-effectiveness of workplace health promotion interventions to address lifestyle factors impacting on health have been widely supported (Aldana et al., 2002; Allen, Lewis & Tagliaferro, 2012). This aspect is elaborated upon below.

Perceptions regarding the Automotive sector's response to the various health influencing factors suggest that only HIV and AIDS are deemed to receive adequate attention while the various other aspects that were investigated, in particular stress, receive basically no attention. The qualitative findings suggest that this is likely due to the costs and labour intensity of interventions in this regard. This particular barrier to organisations in the manufacturing sector's response to HIV in particular has been reported and highlighted (Connelly and Rosen, 2006; 2007). A likely solution offered was the need for larger organisations, perceived to be more successful in addressing not only HIV and AIDS, but also other health influencing conditions, to work more closely with SME to address health issues. This strategy has been initiated by Ellis and Terwin (2005) and various other international development organisations e.g. inWent and some success has been reported, outlined below.

5.5 Organisations' responses to HIV and AIDS

HIV and AIDS health education workplace programmes were implemented in most organisations while access to HCT services was not as widespread as education initiatives. The number of organisations reporting to have HIV and AIDS education programmes was however similar to the number reported by Ellis & Terwin (2005) among the 1032 companies and those with workplace HCT, similar to the figures reported by Connelly and Rosen (2006) in their study among 52 South African companies. It is of concern that these figures seem to have remained consistent over the years and would require specific attention to ensure that employees have adequate access to HIV and AIDS education and HCT services. Peer education seems to be used by organisations for health education and is viewed as a popular education strategy in various organisations. The evidence for the effectiveness of workplace HIV and AIDS peer education initiatives is questionable (Sloan & Myers, 2005) as they continue to face various challenges in the workplace such as the lack of support from management and limited time available to deliver on their tasks due to production priorities (SABCOHA, 2012)

Employees in larger organisations were however more likely to have access to HIV and AIDS education and HCT than small and medium sized organisations, a finding similar to what had been reported in previous research (Fraser et al., 2002; Ellis & Terwin, 2005; Vass & Phakathi, 2006). The presence of HIV and AIDS health education

interventions was also found to be linked to the organisations' view that HIV and AIDS is impacting on their production costs. While Fraser et al., (2002) argued that the lack of HIV and AIDS interventions among SMMEs stem from the low priority of HIV and AIDS in these workplaces, this study suggests that HIV and AIDS is viewed in a serious light because of its negative impact on company production costs, but suggests that other factors might impede its availability. Supported by the qualitative findings and previous literature, the lack of health education interventions and access to workplace HCT seems generally to stem from financial and human resource constraints (Connelly & Rosen, 2005; 2006; 2007; Ellis & Terwin, 2005; Vass & Phakathi, 2006). The need for larger organisations to support smaller organisations to successfully address HIV and AIDS, including other health conditions in their organisations, was reiterated in this study. Efforts to support, especially micro and small organisations in this regard, have already been initiated by various organisations, NGOs and the merSETA (Workshop on the impact of HIV and AIDS on the manufacturing sector, August 2010). Volkswagen and Daimler Chrysler support the development of HIV and AIDS programmes in their supply chain, InWent has already started to reach out to SMEs with toolkits and capacity building programmes while other organisations have even made HIV workplace programmes a procurement requirement (Ellis & Terwin, 2005). Despite various initiatives, about 57% of the organisations seem satisfied by the automotive sector's response to HIV and AIDS specifically related to efforts to address its economic impacts. While visible in terms of HIV and AIDS, the sector is perceived to be slow in responding to other health conditions. The need for a comprehensive response to health conditions and its likely impact on organisation competitiveness seems evident, an area in need of further exploration.

It should be noted that HCT is an important HIV intervention strategy and should be made widely accessible to employees. By making employees aware of their HIV status, it is argued will contribute to their behavioural change and the practice of protected sex, and to ensure relevant and timely care and support for HIV and AIDS (Coates, Richter and Caceres, 2008). However, the uptake of HCT in workplaces has been reported to be low (Connelly & Rosen, 2006), especially among companies in the automotive component sector (Engineering News, 2010). It is therefore important for companies to understand employees' readiness to access HCT services when implementing HCT workplace interventions. On-site HCT uptake was found to be effective when linked to

basic HIV care, as convenience and accessibility facilitated the acceptability of HCT (Corbett et al., 2007). Possible barriers to HCT uptake should also be considered and include perceived violations of confidentiality of health care workers in workplace clinics, uncertainties around the HIV basis of HCT services, the group nature of HCT workplace initiatives (colleagues might detect test results due to psychological reactions when testing positive) as well as fear of discrimination or stigmatization when testing HIV positive (Bhagwanjee et al., 2008). On the other hand, compulsory HCT was argued to ensure better testing rates among employees, especially when campaigns are led by senior management and are accompanied by short intensive „know your status“ drives (Ellis & Terwin, 2005).

Contrary to the research findings by Rosen et al. (2007), where large companies were more likely to provide ART than SMMEs, company size was not a statistically significant determining factor in the provision of ART. While only about 20% of companies reported to provide ART to their employees (Small 5,6%; Small to Medium 4.2% and Medium to Large, 11.3%), against the 75% of 52 companies reported by Connelly and Rosen (2006), the qualitative study nevertheless highlighted the efforts by companies in this study to ensure that employees are referred to their private, general practitioners or public health clinics for ART provision when required. As discussed in the literature review, the provision of ART is complex and are burdened with challenges ranging from employee medical aid coverage, the regular supply and provision of drugs, the confidentiality and monitoring of employees in a workplace programme, drug adherence, the extension of treatment to partners and many more. The ability of a company to sustain ART provision into the future is another obstacle impeding organisation willingness to provide workplace ART. George (2006) argued that many companies are not yet experiencing the anticipated financial benefits from their investments in HIV and AIDS workplace programmes. It can therefore be argued that these views might have a negative influence on organisations yet to implement HIV and AIDS interventions. It should also be noted that little information is available on whether employees who test positive in workplace HCT initiatives do receive the necessary psychosocial support and timely access to ART, another area in need of urgent investigation.

5.6 Workplace Wellness Programmes

Workplace wellness programmes were evident in about half of the organisations sampled, irrespective of size. The presence of a WWP seemed to enable organisations to better monitor and manage not only HIV and AIDS, but also other health conditions. The priority content areas to address in WWP as mentioned by the participants of the automotive industry, corresponds to their views about the health conditions believed to have the most negative impact on their production costs i.e. HIV and AIDS, followed by TB, alcohol use, stress and smoking. The finding that the implementation of WWP is not related to organisation size is encouraging as larger organisations have been reported to be more likely to implement health promotion programmes than midsize and smaller organisations in other parts of the world (Harris, Huang, Hannon & Williams, 2011; Linnan et al., 2008). However, organisations with WWP were more likely to perceive HIV and AIDS as well as other health conditions to have an impact on their production costs, a perception most likely to have contributed to the implementation of a WWP. The strong positive association found between the perceived success of a WWP and HAWP to address the companies' health challenges is possibly due to the fact that HIV and AIDS is viewed as a condition with serious consequences for the organisation. When considering the integration of AIDS and HIV in WWP, it is viewed in terms of providing a framework to provide care and support to HIV infected individuals (George & Whiteside, 2002; Janse van Rensburg, 2007). Nevertheless, SABCOHA (2012) advocated for a broader understanding of WWP, to also include various other health conditions relevant for employees in the workplace.

Support for a WWP seems to prevail among the organisations as some believe that WWP would be moderately to highly successful in addressing their health concerns. Evidence for the health enhancing effects and cost-effectiveness of organisation wellness programmes also known as health promotion programmes, are well supported (Aldana et al., 2004; Allen, Lewis, Tagliaferro, 2012; Cancelliere et al., 2011; Czabała, Charzyńska, & Mroziak, 2011; Kuoppala et al., 2008; Shephard, 2000). However, smaller organisations in the present study were not convinced about the effectiveness of HIV and AIDS education and WWP to address their health challenges. This is contrary to findings by a study which assessed midsize employers' readiness and capacity to implement workplace health promotion programmes (Hannon et al., 2012). This study found that while few of the employers implemented workplace health promotion

programmes, they reported to believe in the benefits of health promotion programmes not only to their employees but also to their organisations. However, low levels of capacity were mentioned as a key barrier to the implementation of workplace health promotion programmes. Similarly, the lack of capacity and infrastructure for workplace health promotion programmes, especially in smaller organisations seems to be common barriers to the implementation thereof (Linnan et al., 2008).

The existing occupational health and safety system was viewed in some instances to provide an ideal mechanism through which health aspects are addressed in the workplace. In accordance with the ILO, workplace well-being compliments occupational health and safety aspects and facilitates a work environment in which workers feel safe, healthy, experience job satisfaction are engaged in and committed to the place of work (Retrieved from <http://www.ilo.org/safework/areasofwork/workplace-health-promotion-and-well-being/lang--en/index.htm>.)

As mentioned above, the wellness approach to employee health has been embraced by SABCOHA (2012), as evidenced in the development of the business sector's strategic plans for HIV/ AIDS, TB and wellness to include chronic illness. The South African government's Employment Assistance Programmes (EAP) is another attempt to address wellness in the workplace. Little information is available about the effectiveness of EAP in addressing health related problems in workplaces worldwide (Taylor, 2005). Within the South African context most of these health related services are outsourced and while companies commit financially, they seem to lack a deeper insight into the transformational nature of a health promoting workplace.

Best evidence suggests that WWP should address both psychosocial and physical factors, including the physical workplace environment (Cancelliere et al., 2011; Kuoppala et al., 2008). Successful WWPs thus imply not merely a disease focus, but requires a change in an organisation's "health culture" to ensure a supportive environment for health and wellbeing, fully integrated into the mission and vision of the organisation (Blake & Lloyd, 2008).

5.7 Summary

In summary the key issues in terms of the objectives of the study were interpreted and discussed in relation to the relevant literature. In brief the results suggest that HIV and AIDS is a major challenge for organisations in the automotive sector and perceived to impact on their production costs irrespective of company size. However, substance use i.e. alcohol use and smoking were viewed by smaller organisations to influence profitability while stress is another cause of concern. With regards to the monitoring and success in containment of these health influencing factors, it is clear that efforts are linked to the conditions perceived to impact on production costs. Larger organisations seemed better able to monitor and reported also more success in the management of the health influencing conditions.

It is encouraging that many organisations seem committed to fight HIV and AIDS in their workplaces through various HAWP e.g. education, HCT and ART access as well as attention to tuberculosis. Where ART is not offered at the worksite, employees are referred to private and public health providers. It was encouraging to note that some organisations have implemented WWP and perceive these to be beneficial. Organisations with WWP were also more likely to experience success in the monitoring and management of health influencing conditions. However, smaller organisations seemed not convinced of the benefits of both HAWP and WWP, a view argued to be linked to limited capacity to implement health promotion interventions.

In the next chapter, a brief conclusion of the study findings is presented followed by the limitations of the study and recommendations stemming from the results.

CHAPTER 6

CONCLUSIONS, LIMITATIONS AND RECOMMENDATIONS

6.1 Introduction

In this chapter, the first section include the study conclusions in terms of the key issues that were investigated i.e. the perceived impact of the various health influencing factors on company production costs, the perceptions regarding the monitoring and success in management of the various health conditions, and workplace interventions. This section is followed by the limitations of the study. The recommendations stemming from the results conclude the chapter.

6.2 Conclusions

HIV and AIDS and tuberculosis, the most common related opportunistic infections remain a challenge to companies surveyed in the automotive sector. It is also clear that these are not the only health condition that is perceived to impact production costs. Substance use i.e. smoking and alcohol as well as stress and related hypertension seemed to be a concern for organisations. Company size rather than company ownership (being a national or international organisation) was found to differentiate the responses. However, where differences were noted, it pertained to conditions related to cardiovascular disease e.g. Hypertension, stress, cholesterol as well as stress in terms of chronic back and neck ache where international companies seemed to have a broader health focus. Diabetes and obesity received very little attention and was seen as having a marginal influence on production costs. Smaller organisations in general did not perceive the health conditions to have a major impact on production. This seems to be reflected in the absence of WWP in these organisations. However, for medium sized and larger organisations alcohol use was viewed to be major health influencing factors likely due to the loss of productivity through absenteeism and time loss for smoking breaks. The issue of safety in the workplace and alcohol use seems paramount to concerns about alcohol use among employees.

While HIV and AIDS, alcohol use and tuberculosis were reported to be moderately to largely monitored, little success has been achieved in addressing the impact of the

particularly HIV and AIDS. As expected, smoking was also found to be difficult to manage. The difficulty that smokers experience in quitting explains the lack of success in this regard. Apart from TB and HIV/AIDS, larger organisations were generally more likely to monitor conditions like diabetes and hypertension.

The automotive sector is perceived by most participants to respond primarily to the challenges posed by HIV and AIDS. Larger organisations were seen to put more effort in health and wellness workplace initiatives than small to medium sized organisations. However, it is encouraging to note that most organisations have implemented HIV and AIDS education interventions followed by HCT initiatives with fewer providing ART to HIV infected individuals. Larger organisations were more likely to have HIV and AIDS workplace interventions and this concurs with previous findings that because small companies do not perceive HIV and AIDS as having a major impact on their organisations they are less willing to invest in HIV and AIDS interventions. Organisations questioned their ability to address HIV and AIDS successfully. This should also be interpreted against the lack of objective company based HIV prevalence data that would enable companies to assess the impact of their intervention investments and the marginal success in national HIV prevalence despite multimillion mass media and multiple HIV and AIDS interventions country wide.

For the smaller organisations in this study, alcohol and smoking was rated higher than the larger organisations to have a significant impact on their production costs. It was therefore disappointing that the smaller organisations were not more optimistic about the likely success of WWP in addressing their health challenges as alcohol and smoking would certainly be aspects that more holistic WWP would focus on. In addition, they were also uncertain whether HIV and AIDS programmes would be effective. Previous studies have highlighted the continued challenges that smaller companies face in terms of expertise and capacity and the willingness to invest in workplace health promotion interventions. The current initiatives by larger organisations to assist smaller companies, especially those in their supply chain, to implement HIV and AIDS interventions might be the most feasible strategy to adequately address HIV and AIDS. These initiatives will unfortunately not address smaller organisations' more immediate health challenges i.e. alcohol use and smoking and thus more comprehensive WWP would be required.

The benefits of broad based WWP was evident as organisations with WWPs were reported to be better able to monitor and manage a range of health conditions including HIV and AIDS, which influence their production costs. This is possibly due to the fact that those with WWPs were also more like to have AIDS and HIV programmes, provide HCT services and while not significant, also provide ART services to their employees. While about a third of organisations believed that WWP would be successful in addressing the negative health influencing conditions, smaller organisations were apprehensive about the likely success of WWP. Nevertheless it was pointed out that WWP should address HIV and AIDS, tuberculosis, alcohol use, and smoking as well as stress. It is possible that the financial and human resource investments involved in the implementation of WWP was used to discount the likely success of these programmes. The significance of mutual interaction and support of employees and management in the establishment of a successful WWP was an important theme. In terms of the WHO comprehensive workplace health promotion approach this aspect relates to the organisation culture and leadership in support of health and wellbeing. Successful health promotion in the workplace therefore relies heavily on an understanding of the mutual benefits for employees and the organisation stemming from a comprehensive health promotion approach and their mutual responsibilities and commitment in this regard.

The results of this study contributes to a better understanding of the perceived salient health influencing factors that impact on organisations' production costs and therefore may inform appropriate responses to their various health challenges. Due to the dynamic interaction of health influencing factors, this survey suggests that a more holistic approach to wellness in the workplace will provide an appropriate platform to address HIV and AIDS, and other important health influencing factors believed to impact on organisations' production costs. As organisation competitiveness and growth seems to hinge on the effectiveness of health promotion interventions, the implementation of comprehensive workplace wellness programmes is therefore a convincing organisational strategy to not only fight the HIV and AIDS pandemic, but also health conditions that might be viewed to have a more severe and immediate impact on the company's productivity i.e. alcohol use, smoking and stress related conditions.

In some instances WWP was seen as an integral part of an occupational health and safety system, an existing mechanism through which health aspects are addressed in the

workplace, seemingly through the more traditional “labour approach”. Organisations generally seemed to have a narrow understanding of health, with a strong disease focus, and safety in the workplace, rather than the comprehensive and all encompassing understanding of health and well-being as currently advocated by the ILO and the WHO. This should therefore be extended to a more holistic view to workplace health and wellbeing.

While workplaces are generally viewed as ideal places to promote health but also to lower health related costs, improve organisation success and competitiveness, its potential for health promotion is nonetheless untapped (Taylor, 2005; Lucini et al., 2007). Furthermore, the comprehensive approach to workplace health and well-being suggested by the WHO (2010) that extent the focus on health conditions to broader organizational systems, culture, and values etc. is however absent. Greater efforts need to be put in place to advocate for this comprehensive settings approach in the South African workplace as individual level interventions are likely to have limited success. The role of employees as well as the employer is critical to foster health and well-being in the organisation. Investment in comprehensive health promotion workplace interventions is a cost effective strategy to enhance not only individual health and wellbeing but also various financial gains for organisations.

6.3 Limitations of the study

With consideration of the relatively small sample size, irrespective of the fact that some level of representation in terms of geographic distribution was mentioned, the study findings are limited to the Tier 1 companies in the automotive manufacturing sector and therefore cannot be generalised to the automotive sector or the manufacturing and engineering sector. Another limitation was the database that seemed not to have been updated that served as the sampling frame of the study also contributing to limit the findings to companies in the automotive manufacturing sector.

The disappointingly low response rate of 14.04% is lower than reported for internet surveys where it seems to range between 20% and 24% (Kaplowitz, Hadlock, Levine, 2004). This implies that the error estimate is 10.6% at a 95% confidence interval and therefore caution should be taken when interpreting the results. It should be noted that various attempts were however made to remind the participants and to motivate them to

return the completed survey in time. The feedback that was received indicated that the timing of the survey towards the end of the year was problematic due to the closure of the sector for the yearly Christmas recess and the related production demands.

Despite the fact that the instrument was subjected to a pilot test, some participants did not complete each question correctly and seemed to have selected the most relevant items resulting in some incomplete response information. Self-administered surveys in general do pose some challenges and data quality can be problematic. Careful planning and testing of the instrument might be successful to partly contain problems.

The study findings are limited to perceptions of managers. These perceptions are not necessarily based on objective company policies and therefore some level of bias is possible as the assumption was made that the responses reflect the opinion of management and therefore the interpretation of the findings should be done with some caution. Nevertheless, the study findings provide a deeper insight into organisations' in the automotive sector views about the health influencing factors impacting on their production costs and the value of a comprehensive workplace wellness programme in not only addressing HIV and AIDS but also other health conditions.

6.4 Recommendations stemming from the findings

The insights gained from the results suggest the following recommendations:

- Greater effort is required to advocate for a comprehensive approach to health and wellbeing in the workplace that extent the narrow disease focus to organisation transformation that will not only allow for health education to develop personal skills and knowledge, but ensure that organisations become supportive environments for health and wellbeing. Consideration should be given to appropriate leadership, relevant policies and systems in the workplace as well as the fostering of an organisation culture grounded in ethical principles and values. Organisations will need to fully understand the benefits likely to stem from this approach not only through greater employee health and wellbeing, but the indirect benefits of a workforce that feel valued, are committed and engaged.
- A phased approach to comprehensive health and wellbeing interventions should be followed as not to overwhelm organisations, but to first create a readiness to

embrace a comprehensive approach. The existing occupational health and safety initiatives in the workplace could provide opportunities to extend health and wellbeing programmes. However a better understanding of the ILO view pertaining to Health promotion's role in the transformation of organisations could form an important foundation for further developments. In addition, the extension of WWP to more organisations, also strongly supported by SABCOHA augers well for the development of comprehensive health promoting workplaces.

- Companies, especially smaller companies should be given some assistance to develop tailored and cost-effective interventions directed first at addressing their more immediate health concerns, so that they may reap the benefits of well-designed interventions. In addition, this process could initiate a necessary attitude change in becoming less apprehensive of the likely success of WWP.
- Organisations' existing efforts and interventions to address HIV and AIDS should be acknowledged and appreciated as well as the outreach activities of larger organisations to smaller organisations in this regard. The integration of HIV and AIDS interventions within WWP seems appropriate as HIV and AIDS were not considered by all organisations as having the most severe impact on production costs. Support should however be available to address companies' interventions needs pertaining to education, HCT and ART services. The facilitation of partnerships with other institutions to assist in HIV and AIDS service provision, including the treatment of other STIs, opportunistic infections (especially TB) and counselling support is necessary. A greater awareness of existing networks should be facilitated and organisations such as SABCOHA and other non-governmental organisations (NGO) and the public sector should be utilised in this regard.
- Comprehensive, workplace health promotion approaches would provide a cost-effective and sustainable way to address the multitude of health influencing factors impacting on individual employees and business alike. Currently, the various other health influencing conditions seems to be best addressed within WWP and thus reiterates the need to strengthen and extent the existing WWP to broaden its predominant disease focus. Occupational stress with its negative health consequences for employees but also related economic costs, should

receive more attention, especially in light of a worldwide increase of the mental health disease burden. Stress should be addressed at both an individual and organisation level with consideration of the working climate and conditions that may play a significant role in the likely adoption of positive coping strategies and in sustaining other healthy practices.

The results of this study enhanced understandings of the perceived salient health influencing factors that impact automotive organisations' production costs. Apart from HIV and AIDS, substance use such as smoking and alcohol use, as well as stress, chronic back/neck ache and tuberculosis, are deemed to pose challenges to the organisations. Importantly the results point to the known inter-relationships between the identified health concerns and calls for the expansion of HAWP to more holistic wellness programmes. As organisation competitiveness and growth seem to hinge on the effectiveness of health promotion interventions, the implementation of comprehensive workplace wellness programmes is therefore a convincing organisational strategy to not only address the concerned health conditions and successfully fight the HIV and AIDS pandemic, but also to foster general workplace wellbeing.

The study findings therefore calls for the careful development and implementation of theoretically sound and appropriate workplace wellness interventions with cognisance of the holistic health promoting workplace framework suggested by the WHO (2010). Furthermore, careful monitoring and proper evaluation should be considered as an integral part of a responsible intervention approach. This will enable the development of scientifically based best evidence, necessary for the fostering of health and wellbeing in the South African workplace.

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APPENDIX A

Ethical Clearance

8 December 2010

Prof. A Meyer-Weitz (209541620)
School of Psychology

Dear Prof. Meyer-Weitz

PROTOCOL REFERENCE NUMBER: HSS/1424/010M
PROJECT TITLE: A qualitative exploration of a comprehensive response to HIV and AIDS through an integrated Wellness Workplace Programme.

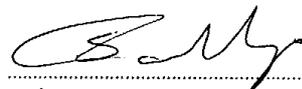
In response to your application dated 3 December 2010, the Humanities & Social Sciences Ethics Committee has considered the abovementioned application and the protocol has been given **FULL APPROVAL**.

Any alteration/s to the approved research protocol i.e. Questionnaire/Interview Schedule, Informed Consent Form, Title of the Project, Location of the Study, Research Approach and Methods must be reviewed and approved through the amendment /modification prior to its implementation. In case you have further queries, please quote the above reference number.

PLEASE NOTE: Research data should be securely stored in the school/department for a period of 5 years.

I take this opportunity of wishing you everything of the best with your study.

Yours faithfully



.....
Professor Steven Collings (Chair)
HUMANITIES & SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE

cc. Supervisor – Prof. J Buitendach
cc. Mrs. S van der Westhuizen

APPENDIX B

Research instruments and informed consent

AUTOMOTIVE SECTOR HEALTH SURVEY 2010



Internationale Weiterbildung
und Entwicklung gGmbH



Automotive Industry Development Centre
Your partner in becoming globally competitive

General Information

Thank you for participating in this health Automotive Sector Survey.

Aim:

This survey is designed to better understand the needs of the automotive sector industry in South Africa in regards to health programmes.

Ethical issues:

Ethical clearance for the study was obtained from the Ethics Committee of the University of KwaZulu-Natal and you may address any inquiries to:

Ms Phumelele

Ximba Tel. no. 031

2603587

E-mail: ximba@ukzn.ac.za

Your voluntary participation will be appreciated and please be ensured that all information will be treated as confidential. Should you at any stage decide to withdraw from the study please let us know so that no further enquiries will be made. The data will be published, but in no instance will any individual replies nor confidential information at a company level be published. All data will be presented at a group level with consideration of the anonymous and confidential nature of the information supplied by you.

Survey administration:

This survey is being administered by the Automotive Industry Development Centre. If you have a problem with this survey, you can receive support by sending an email to mweihs@aidc.co.za. or by calling Mr. Martin Weihs on 041 393 2119 or alternatively Prof. Anna Meyer-Weitz (Ph.D.) at the School of Psychology, University of KwaZulu-Natal on 031 2607618.

Please complete the questionnaire by filling in the missing information or tick the appropriate box.

Your timely response will be greatly appreciated.

Please return the completed survey to the

AIDC: mweihs@aidc.co.za or to

FAX: 086 218 2914.

Please fill in Details:

| | |
|------------------------|--|
| Participating Manager: | |
| Manager's designation: | |
| Company's name: | |
| Company's address: | |
| City: | |
| Province: | |
| Postal code: | |
| Telephone: | |
| Fax: | |
| E-mail: | |

Annual turnover, please tick:

| | | | | |
|----------------------------|-----------------|----------|------------------|-----------------------|
| Less than R5 million/annum | R5 - 10 million | R10 – 20 | R20 – 50 million | More than R50 million |
| | | | | |

Approximate number of employees in the company, please give details:

Fulltime Part time/

Approximate number of company employees employed in the different skills levels, please give details:

Unskilled Highly skilled Semi-skilled Skilled

Ownership, please tick:

Multina-tional National Pty Ltd CC Privately owned

1. How would you describe your company's **efforts towards monitoring the impact** of the following health influencing factors on your production costs? Please tick:

| | None | Very small | Small | Moderate | Large |
|------------------------------------|------|------------|-------|----------|-------|
| High blood pressure | | | | | |
| Tuberculosis | | | | | |
| Stress | | | | | |
| Smoking | | | | | |
| HIV&AIDS | | | | | |
| Alcohol use | | | | | |
| Obesity | | | | | |
| Elevated blood sugar or/& diabetes | | | | | |
| Chronic back or neck ache | | | | | |
| High cholesterol | | | | | |

2. Please indicate to what extent the following health influencing factors **impact on company's production costs**? Please tick:

| | None | Very small | Small | Moderate | Large |
|------------------------------------|------|------------|-------|----------|-------|
| Obesity | | | | | |
| Tuberculosis | | | | | |
| Stress | | | | | |
| Smoking | | | | | |
| Alcohol use | | | | | |
| High blood pressure | | | | | |
| HIV&AIDS | | | | | |
| Elevated blood sugar or/& diabetes | | | | | |
| High cholesterol | | | | | |
| Chronic back or neck ache | | | | | |

3. Please rank the following factors according to their impact on the increase of production costs from 0 to 9 (0 being the lowest impact or no impact, 1 being a higher impact and 9 being the highest impact).

Please rank:

| | |
|------------------------------------|--|
| Chronic back or neck ache | |
| Elevated blood sugar or/& diabetes | |
| Stress | |
| Smoking | |
| HIV&AIDS | |
| High blood pressure | |
| Obesity | |
| Alcohol use | |
| Tuberculosis | |
| High cholesterol | |

4. To what extent is your company **successful in diminishing significantly the impact** of the following health issues **on production costs**? If there are no interventions or if health issue has no impact mark "Do nothing".

Please tick:

| | Very small | Small | Moderate | Large | Do nothing |
|------------------------------------|------------|-------|----------|-------|------------|
| Alcohol use | | | | | |
| Tuberculosis | | | | | |
| Stress | | | | | |
| Smoking | | | | | |
| HIV&AIDS | | | | | |
| High blood pressure | | | | | |
| Obesity | | | | | |
| Elevated blood sugar or/& diabetes | | | | | |
| Chronic back or neck ache | | | | | |
| High cholesterol | | | | | |

5. If your company would decide to make use of a health promotion programme, **how much attention** should such a programme pay to the following health influencing factors? Please tick:

| | None | Very small | Small | Moderate | Large |
|------------------------------------|------|------------|-------|----------|-------|
| Alcohol use | | | | | |
| Tuberculosis | | | | | |
| Stress | | | | | |
| Smoking | | | | | |
| Chronic back or neck ache | | | | | |
| High blood pressure | | | | | |
| High cholesterol | | | | | |
| Elevated blood sugar or/& diabetes | | | | | |
| Obesity | | | | | |
| HIV&AIDS | | | | | |

6. Overall, how would you rate **the automotive sector's response** to addressing the economical impacts of the following health factors?

| | Completely inadequate | Lacking | Neutral | Satisfactory | More than adequate |
|------------------------------------|-----------------------|---------|---------|--------------|--------------------|
| Alcohol use | | | | | |
| Smoking | | | | | |
| Stress | | | | | |
| Obesity | | | | | |
| HIV&AIDS | | | | | |
| High blood pressure | | | | | |
| Tuberculosis | | | | | |
| Elevated blood sugar or/& diabetes | | | | | |
| Chronic back or neck ache | | | | | |
| High cholesterol | | | | | |

7. Please indicate whether your company is **actively engaging** in the following programmes or services. Please tick:

| | YES | NO |
|--------------------------|-----|----|
| HIV and AIDS education | | |
| HIV Testing | | |
| Antiretroviral treatment | | |
| Wellness programme | | |

8. To what extent do you think that a **comprehensive workplace wellness programme** will address your organisation's health related challenges?
Please tick:

| None | Very small | Small | Moderate | Large |
|------|------------|-------|----------|-------|
| | | | | |

9. To what extent do you think that an **HIV and AIDS workplace programme** will address your organisation's health related challenges?
Please tick:

| None | Very small | Small | Moderate | Large |
|------|------------|-------|----------|-------|
| | | | | |

10. **Comments** (e.g. on the survey or the impact of the above health factors on your company):

.....

.....

.....

.....

.....

.....

AUTOMOTIVE SECTOR QUALITATIVE INTERVIEW SCHEDULE 2010



Internationale Weiterbildung
und Entwicklung gGmbH



Automotive Industry Development Centre
Your partner in becoming globally competitive

General Information

Thank you for participating in this health Automotive Sector Interview.

Aim:

This qualitative study is designed to better understand the needs of the automotive sector industry in South Africa with regards to workplace health related programmes.

Ethical issues:

Ethical clearance for the study was obtained from the Ethics Committee of the University of KwaZulu-Natal and you may address any inquiries to:

Ms Phumelele

Ximba Tel. no. 031

2603587

E-mail: ximba@ukzn.ac.za

Your voluntary participation will be appreciated and please be ensured that all information will be treated as confidential. Should you at any stage decide to withdraw from the study please let us know so that no further enquiries will be made. The data will be published, but in no instance will any individual replies nor confidential information at a company level be published. All data will be presented at a group level with consideration of the anonymous and confidential nature of the information supplied by you.

Study administration:

This qualitative study is being administered by the Automotive Industry Development Centre. If you have a problem with this study, you can receive support by sending an email to mweihs@aidc.co.za. or by calling Mr. Martin Weihs on 041 393 2119 or alternatively Prof. Anna Meyer-Weitz (Ph.D.) at the School of Psychology, University of KwaZulu-Natal on 031 2607618.

Your participation in this interview is greatly appreciated.

Company Details:

| | |
|------------------------|--|
| Participating Manager: | |
| Manager's designation: | |
| Company's name: | |
| Company's address: | |
| City: | |
| Province: | |
| Postal code: | |
| Telephone: | |
| Fax: | |
| E-mail: | |

Annual turnover, please give me an indication:

| Less than R5 million/annum | R5 - 10 million | R10 – 20 | R20 – 50 million | More than R50 million |
|----------------------------|-----------------|----------|------------------|-----------------------|
| | | | | |

Approximate number of employees in the company, please give details:

Fulltime Part time/

Approximate number of company employees employed in the different skills levels, please give details:

Unskilled Highly skilled Semi-skilled Skilled

Ownership, please tick:

Multina- National Pty Ltd CC Privately
tional owned

1. How would you describe your company's efforts towards monitoring the impact of the following health influencing factors on your production costs?

Hypertension:

Tuberculosis:

Stress:

Smoking:

HIV& AIDS:

Alcohol use:

Obesity:

Elevated blood sugar/diabetes:

Chronic back or neck ache:

High cholesterol:

2. How do the following health influencing factors impact on your company's production costs?

Obesity:

Tuberculosis:

Stress:

Smoking:

Alcohol use:

Hypertension:

HIV&AIDS:

Elevated blood sugar/diabetes:

High cholesterol:

Chronic back or neck ache:

3. Please explain your company's actions with regards to these health factors that impact on your production cost.

Probe:

Interventions (Specific versus comprehensive wellness programmes)

Incentives for desired health behaviours

Support for behavioural change

Negative consequences for the employees should behaviour change not occur.

4. What kind of interventions do you think will be the most appropriate to address the negative health influencing factors that you experience?

Probe:

Interventions addressing only the specific health problem?

General Comprehensive Wellness programmes?

5. I would like to know a bit more about health related workplace programmes in your organisation. Please tell me about these.

Probe: General content and also perceived effectiveness

HIV and AIDS education

HIV testing

ART access

Health Screening

Comprehensive Wellness programmes

6. What kind of programme do you believe will be able to successfully address the health influencing factors that impact on your production costs? Why do you think so?

Probe:

Intervention directed at only the specific health factors

HIV and AIDS programmes

Comprehensive Wellness Workplace Programmes.

THANK YOU FOR YOUR PARTICIPATION